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- Spiritual Update
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COVID Omicron Update and Situation in Various Countries

- **South Africa Update:** The situation has improved particularly from the last week. The numbers vary from 3,000 to 3,700 cases; deaths in the last week were 130 to 133, active cases are 6,700+. The recovery rate is 95.5%. Total 22 million tests done in South Africa; 3.5 million have tested positive. The positivity rate has gone down; from 30-38 to 20 and this week it is around 7.5 to 8.2. Intensive care units (ICUs) are empty; there are 666 hospitals in the country and 6,284 patients are hospitalized; out of these, around 500 were in ICU, 243 were on ventilator. Mostly the unvaccinated persons are in ICU. There are few cases of double vaccinated persons in ICU but they were with comorbidities. Schools have reopened. Vaccination in children above 12 years is increasing, but some teachers do not want to get vaccinated. Businesses are recovering very slowly. International borders are open now.
- **Philippines Update:** New cases due to Omicron increased after the Christmas holidays. Starting January, there were 5,000 cases. Last week, the cases were highest with almost 6,000 daily new cases. But now cases have decreased; the percentage of active cases is 6.6; the total number of people affected with COVID is 3.2 million with death rate of 1.53 with total of 53,801 deaths. Sixty million have been fully vaccinated; 55 million have received the first dose. 12 to 13 million children in 5 to 11 years age group are vaccinated. Almost 50 million more people remain to be vaccinated. Booster dose has been started for healthcare workers, persons with comorbidities and senior citizens.
- **India Update:** The situation is definitely improving. There seems to be a flattening of curve, particularly in the North and North East states; though the southern states continue to have cases. Today there are 2.35 lakh cases. But many are asymptomatic or only mildly symptomatic. Test positivity rate is 10%; varies from state to state. Covaxin and Covishield, which were under emergency use authorization, have now been granted full permission by Drugs Controller General of India (DCGI). Almost 95% of eligible population has received the first dose, while 74% have received two doses. Vaccination is picking up in adolescents. The R ratio is now 1.6. Normal activities are going on in the country. Crowd management is now being given more importance. Now 50 to 100 people are allowed to attend functions. The intensity of the problem has been categorized into three groups (I, II and III) based on the number of hospital and ICU admissions. Monoclonal antibodies are the sheet anchor of treatment. Mortality rate has not increased despite increase in cases. Gradually Omicron is replacing the Delta variant. Headache is the predominant feature of Omicron; fever, upper respiratory infection (sore throat) are also reported. Vaccination has helped in reducing mortality, hospitalization and severity of infection.

- **Japan Update:** The number of infected persons has increased to 18,000 cases; but there are very few deaths. The number of people needing admission is slowly increasing. Infections among children are on the rise. Booster vaccination has made little progress. Hospitalization rate among elders who have received booster shot is low.
- **Hong Kong Update:** Omicron has caused the 5th wave; more than 100 cases daily, though not exponentially increasing. In many cases, source of infection cannot be identified. There have been no mortalities yet from Omicron. Primary schools, KG, secondary schools were closed earlier; primary and KG schools will tentatively be closed till 21st February. Primary schools may resume when at least 70% of students have received at least one dose of the BioNTech vaccine or two doses of Sinovac vaccine. More than 95% teachers are vaccinated; those who are unvaccinated have to undergo testing every 3 days. All government departments also require vaccination record. All restaurants are closed after 6 pm; gyms, parlors, church gatherings are all closed. About 79% have received the first dose, 71% have received two doses, only 15% have received the third dose. Persons older than 80 years – 28% are vaccinated; >70 years – 60% are vaccinated and 11 to 18 years – 60% are vaccinated. Vaccination for 5- to 11-year age group has started last week and is 2.2%. The government has allowed vaccination only from 5 years upwards. The pediatric formulation of Pfizer-BioNTech vaccine is not available; but diluted one-third of adult dose is being used in this age group.
- **Pakistan Update:** The 5th wave of Omicron is going very high; more than 8,000 people. Twenty-seven deaths in the last 24 hours. Vaccinations are 17 crore 40 lakhs. Businesses have opened up. Standard operating procedures (SOPs) are not being followed.
- **Singapore Update:** There are 5,500 cases per day and 3 deaths yesterday. There are 3,33,000 cases so far and 850 deaths. Couple of weeks ago, 14,380 children were sick with COVID from October; of these, 4 are in ICU and 15 have multisystem inflammatory syndrome in children (MIS-C). Latest figures – 17,699 children infected, 2586 hospitalized, no mortalities. One lakh forty thousand children are vaccinated to date. No major side effects with 10 µg dose for 5 to 10 years age group. About 91% vaccination rate; 56% of population has received booster. Vaccination-differentiated measures have been instituted, which prevent unvaccinated persons from entering malls, restaurants, etc. Refusal to vaccination can lead to termination of job.

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Moderator: Mr Saurabh Aggarwal

Source: Minutes of an International Weekly Meeting on COVID-19 Held by the HCFI Dr KK Aggarwal Research Fund (29th January, 2022, Saturday, 9.30 am-10:30 am)



CDC Releases New Pneumococcal Vaccine Recommendations for Adults

The US Centers for Disease Control and Prevention (CDC) has issued updated pneumococcal vaccine recommendations for adults, calling for the use of two recently approved vaccines in a more streamlined manner, in order to avert the complexities of age and patient conditions. The recommendations urge use of the 15-valent pneumococcal conjugate vaccine (PCV15) or the 20-valent PCV. The recommendations are applicable to PCV-naive adults in the United States, either 65 years of age or older, or those who are 19 to 64 years of age with underlying medical conditions like diabetes, chronic heart or liver disease or HIV, and have not received a PCV earlier or their prior vaccination history is not known. It has also been stated that if PCV15 vaccine is used, a dose of the 23-valent pneumococcal polysaccharide vaccine (PPSV23) should be given, after at least 1 year... (Medscape, February 1, 2022)



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Overweight and Obesity: Opening an Opportunity for Health

ABSTRACT

Obesity is now recognized as a disease and is often preceded by an overweight status in its natural history of development. Though excess fat is often associated with morbidity, stigma and mortality, this editorial provides a unique perspective of identifying obesity and overweight status as a window of opportunity. The authors reflect how people living with obesity can be identified, motivated and managed, to ensure optimal comprehensive health.

Overweight and obesity, two frequently used words, are defined as abnormal or excessive fat accumulation that may impair health.¹ These medical conditions can be easily identified in clinical practice by measuring body mass index (BMI). This is calculated by dividing an individual's weight (kilogram) by the square of his/her height (meters squared).² Indian standards define overweight as a BMI ≥ 23 kg/m², and obesity as a BMI ≥ 25 kg/m².

Outside Asia, however, the thresholds used to define overweight and obesity are 25 and 30 kg/m², respectively. In children aged 5 to 19 years, age-specific BMI cut offs are used, while in younger children, weight-for-height ratios are calculated to assess weight health.

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THE WEIGHT OF THE PROBLEM

India shoulders a heavy burden of obesity. In a recently published study by Verma et al, based on the National Family Health Survey data, about 30-40% of the Indian adult population was found to be overweight or have obesity.³ Moreover, a rapid increase in the prevalence was noted across all states of India. In another recently published study by Sridharan et al, about two-thirds of elderly postmenopausal women from rural south India were found to have obesity.⁴ Data have also shown a consistent increase in BMI in children over the past few decades. In a recently published study by Dabas et al from Delhi, the mean BMI in children has increased by 1.2 kg/m² over the last decade.⁵

THE IMPACT OF OBESITY

Obesity has been declared as a disease by the American Medical Association. Overweight and obesity present with multiple complications and comorbid conditions. The impact of obesity can be classified using the 9M mnemonic (Table 1). The cumulative burden of obesity-related complications is mind-boggling. A total

Table 1. The Impact of Obesity

Domains	Examples
Metabolic	Diabetes, hypertension, dyslipidemia, coronary artery disease, cerebrovascular disease, gallstones, fatty liver
Musculoskeletal	Osteoarthritis, osteoporosis, sarcopenic obesity
Mood	Depression, anxiety, social stigma, eating disorders
Mirror-related (Cosmetic)	Acanthosis nigricans, hyperpigmentation
Malignancy	Endometrial carcinoma, breast cancer
Menstruation/Maternity-related	Polycystic ovary syndrome, infertility
Masculinity-related	Oligospermia, hypogonadism
Monetary	Greater health expenditure
Mortality, premature	Greater risk of death

of 200 comorbidities have been described in people with obesity. These not only reflect the associated medical problems in people with obesity but also the fact that people living with obesity may approach varied healthcare specialists with obesity-related complications.

Though the metabolic comorbidities of obesity are well recognized, nonmetabolic complications, especially those related to psychosocial outcomes, are often neglected. In a recent study from south India, it was found that 30% of individuals attending a multidisciplinary obesity clinic had an underlying psychological disorder.⁶ In addition to the listed comorbidities, today; the management of obesity is focused on the overall well-being of the individual. It is essential to assess the impact of obesity on the health-related quality of life in these individuals. In a recently published study by Ramasamy et al, the majority of the patients attending an obesity clinic were found to have poor quality of life. This was due not only to their medical comorbidities and social stigma, but also because of intrusive therapeutic interventions and strict dietary measures.⁷ A person-centered approach to weight management is required, therefore, to offset such distress.⁸

OUR ATTITUDE TOWARDS OBESITY

Since traditional times, obesity has been viewed as a marker of prosperity and health. While this viewpoint may have had a rational backing during times of famine, it holds no water now. Obesity is clearly linked with excessive biopsychosocial morbidity, healthcare costs and mortality, and needs to be addressed.⁹ At the same time, an extreme counter-reaction-obesity stigma,

characterized by body shaming and “baro-bullying”, seems to be gaining traction.¹⁰

As a mature society, we need to balance the need for weight control with a respectful approach to individual circumstances and preferences. In this, the lead needs to be taken by physicians, who influence the society’s thinking and actions. It is also important to recognize obesity as an opportunity, to screen, identify and manage the associated comorbidities so as to improve the quality of life, prevent further morbidity and mortality.

There are several rights and responsibilities, to be known for a patient with obesity and the treating physician. The key rights for a person with obesity include to be able to acquire sustained and sustainable health, to restore physical and cardiometabolic health and to ensure rescuing psychological well-being. However, at the same time, the patient must also understand that obesity-related comorbidities need time and consistent efforts to resolve and the quick-fix methods do not lead to long-term sustainable outcomes. Persistence and patience are required, both on the patient and the physician’s side. Often the first important milestone that is achieved in these patients is halting or cessation of further weight gain.

From the physician’s standpoint, the key responsibilities include to be respectful to the patient. Avoid body shaming and understand obesity as a disease state rather than a voluntary choice of the patient. A physician may help to improve this by providing weight friendly infrastructure in the clinic and use a nonstigmatizing language while conversing with patients with obesity. The physician should also take the responsibility of reducing the patient’s long-term health-related expenditure and be a role model for others.

Table 2. The AEIOU Hierarchy of Health Literacy and Obesity Care

Accept and acknowledge that obesity is a disease

Explore and evaluate the cause and effect of obesity

Introspect and internalize that action is needed for prevention and care

Open a window of opportunity: Offer options for prevention and management

Understand that obesity care is a lifelong process, in which the entire society must be involved

ONE STEP AT A TIME

We must understand that we have a right, and a responsibility, to control our collective weight.

The first step towards this is to accept that obesity is a disease. Once this is done, we must explore and evaluate the reasons for this, in individual patients, and in the society as a whole. Introspection will help internalize the need for action, and allow the healthcare system to offer various options for prevention and management (Table 2).

Nonpharmacological options that are available for obesity management include intensive behavioral therapy, coupled with medical nutrition therapy and structured physical activity.¹¹ Drugs available in India include orlistat, liraglutide and semaglutide. Liraglutide and semaglutide are glucagon-like peptide-1 receptor agonists (GLP-1RAs) that can be used, in varying doses, for the management of both obesity and diabetes.¹²

AN OPPORTUNITY FOR IMPROVEMENT

These offerings should be viewed as an opportunity to improve current as well as long-term health, and to understand the need for life-long “baro-vigilance”. One must also guard against nonvalidated therapies that are not backed by proper clinical trials.

Once our health literacy expands to include the importance of obesity prevention and care, we will be on our way to becoming a healthier nation, to becoming “The Metabolic Care Capital of the World”.



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Efficacy of Various Treatment Modalities on Patient-related Outcome in Hospitalized COVID-19 Patients – A Retrospective Study

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ABSTRACT

Background: The outbreak of coronavirus disease 2019 (COVID-19) caused by novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) began in China, in December 2019, and was declared a pandemic by WHO on March 11, 2020. The treatment is evolving and is mostly supportive in nature. **Material and methods:** This was a single-center retrospective study that included confirmed COVID-19 cases treated at our institute (a tertiary care hospital in Jammu and Kashmir, India), between March 2020 and December 2020. Patients with age more than 18 years were included in the study. **Results:** On evaluating the effect of various drug therapies used in management of COVID-19 patients of all severity, use of remdesivir and famotidine was associated with significantly higher odds of survival. In subgroup of patients with severe disease, use of systemic steroids was associated with significantly higher odds of survival in addition to remdesivir and famotidine. In patients with severe COVID-19 illness, likelihood of survival was significantly higher in those who received combination of systemic steroids plus remdesivir compared to steroids and remdesivir alone. **Conclusion:** Steroids were effective in severe COVID-19 illness and the combination of steroids and remdesivir was more effective in severe illness. There is a need to undertake more large scale prospective randomized trials to determine the most effective drug therapies to treat the sick patients and prevent worsening of mild cases.

Keywords: Pandemic, COVID-19 illness, SARS-CoV-2, severe COVID-19

The outbreak of coronavirus disease 2019 (COVID-19) caused by novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) began in Wuhan, China, in December 2019 and was designated as a pandemic by the World

Health Organization (WHO) on March 11, 2020.^{1,2} The spectrum of COVID-19 ranges from asymptomatic infection to mild respiratory tract illness to severe pneumonia, acute respiratory distress syndrome (ARDS), multiorgan failure and death.³ A number of clinical trials have evaluated different treatment modalities in the management of COVID-19 illness and many more are under way, primarily assessing the clinical outcome in terms of accelerating the viral clearance, reduction in duration of symptoms, progression of disease, need for mechanical ventilation and mortality.^{4,5} Only few of these treatment interventions have shown significant clinical benefit. Corticosteroid use has been considered as the standard of care in management of COVID-19 patients with respiratory failure. Multiple observational and randomized controlled trials (RCTs) on corticosteroid use in hospitalized COVID-19 patients have shown reduction in mortality and decrease in progression of disease.^{6,7} Based on trial results, remdesivir was approved for the management of hospitalized COVID-19 patients.⁸ However, recent evidence suggested little or no benefit in reducing

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hospital stay, need for mechanical ventilation and reduction in mortality.⁹ Results from initial RCTs that evaluated the use of tocilizumab (anti-interleukin [IL-6] receptor antibody) in COVID-19 produced conflicting results.¹⁰⁻¹² The results from two large RCTs reported reduction in mortality in a subset of COVID-19 patients with severe and critical illness.^{12,13} A number of studies have compared the efficacy of various treatment modalities, either alone or in combination, in COVID-19 patients and reported beneficial effect of drugs like corticosteroids, tocilizumab and remdesivir on clinical outcome.¹⁴ Our institute is the only tertiary care center in Jammu and Kashmir (J&K) that is involved in the management of severe to critical COVID-19 patients. To evaluate the effect of various treatment modalities on patient-related outcome (survival and mortality) in hospitalized COVID-19 patients, a retrospective study was planned.

MATERIAL AND METHODS

This was a single-center retrospective study that included confirmed COVID-19 cases treated at our institute (a tertiary care hospital in J&K UT) between March 2020 and December 2020. The study was approved by the Institutional Ethical Committee. Patients with positive nasopharyngeal swabs for reverse transcription-polymerase chain reaction (RT-PCR) for SARS-CoV-2 with age more than 18 years were included in the study. Patients with incomplete medical records, especially with no known outcome, those who died within 24 hours of admission and pregnant/lactating women were excluded.

Classification of Patients into Nonsevere and Severe Category

For the purpose of analysis, patients were divided into two groups, nonsevere and severe. Those with mild and moderate disease were grouped into nonsevere category, whereas those with severe and critical COVID-19-related illness were grouped into severe category. The classification of patients into various grades of severity was based on the definitions provided by Indian Council of Medical Research (ICMR).¹⁵ Severity of illness was based on various clinical and radiological parameters. Mild group included those having upper respiratory tract symptoms and oxygen saturation $\geq 94\%$ with normal radiology. Moderate group included those having lower respiratory disease during clinical assessment or imaging with $\text{SpO}_2 \leq 94\%$ on room air. Severe group included patients with $\text{SpO}_2 < 90\%$ on room air, a respiratory rate of > 30 breaths/min,

$\text{PaO}_2/\text{FiO}_2 < 300$ mmHg or lung infiltrates $> 50\%$ and critical group included patients having ARDS, septic shock or multiorgan dysfunction. Patients were managed in areas of hospital dedicated for COVID-19. Severe or critically ill patients were managed in high-dependency unit and dedicated COVID intensive care units (ICUs). All patients received treatment as per the institutional protocol that was based on the national and international available guidelines.

Outcome

Primary outcome studied was the effect of various drugs used in the management of COVID-19 illness on all-cause mortality and survival.

Data Extraction

Patient data was extracted from medical record files available in medical record keeping department. Data regarding patients' demographic profile, clinical presentation, severity of illness, laboratory parameters, treatment received and outcome in terms of mortality was recorded and entered on a preformed proforma. The data was then transferred and maintained on an excel spread sheet.

Statistical Analysis

Categorical variables were expressed as frequencies and percentages, whereas continuous variables were described using mean, median and interquartile range (IQR) values. Difference in means of continuous variables was compared using independent 't' tests in case of normally distributed data and nonparametric test (Mann-Whitney test) was used in non-normally distributed data. Difference between categorical variables was assessed by using the χ^2 test or Fisher's exact test. A 'p' value of < 0.05 was considered statistically significant. Multivariate logistic regression was done including medications that significantly affected the primary outcome on univariate analysis. All statistical analyses were performed using SPSS version 26.0 software.

RESULTS

A total of 1,000 RT-PCR COVID-19 positive patients were included in the study. The median age of the study population was 56 years (IQR 45-65), with majority of them being males, with nonsurvivor group having significantly higher median age (median age 62 [55-70] vs. 53 [40-65], $p 0.001$). Males outnumbered females (64.6% vs. 35.4%, $p 0.67$); however, no gender difference was observed between the two groups.

The most common comorbid illness observed was hypertension (50.9%), followed by diabetes mellitus (29.8%), chronic kidney disease (8.2%) and malignancy (8.1%). Among nonsurvivors, significantly higher proportion of patients had hypertension, chronic kidney disease, chronic lung disease and chronic liver disease (Table 1).

Patients in nonsurvivor group demonstrated increased median heart rate (100 [IQR 84.75-112], p 0.001), and increased respiratory rate (24 [IQR 20-30], p 0.001), compared to survivor group at the time of admission.

Majority of the patients ($n = 658$, 65.8%) had severe illness at the time of presentation. Likelihood of survival was significantly lower in patients belonging to severe category (88.9% vs. 56.7%, p 0.001).

Among various laboratory parameters, nonsurvivors had significantly lower hemoglobin, elevated total leukocyte count, higher creatinine, lower albumin, higher international normalized ratio (INR) and higher lactate dehydrogenase (LDH), creatinine phosphokinase (CPK), ferritin and IL-6 levels (Table 2).

Oxygen supplementation was provided to a total of 780 patients using nasal cannula (10.6%), face mask (22.3%), nonrebreathing mask (61.15%) and high flow nasal oxygen (5.8%). Mechanical ventilation was provided to 10.6% ($n = 106$) patients. Noninvasive ventilation was the most common mode of mechanical ventilation provided to 6.7% of patients while invasive mechanical ventilation was used in 3.9% of cases (Table 3).

On evaluating the effect of various drug therapies used in the management of COVID-19 patients of all severity, use of remdesivir and famotidine was associated with significantly higher odds of survival. In a subgroup of patients with severe disease, use of systemic steroids was associated with significantly higher odds of survival in addition to remdesivir and famotidine (Table 4).

In patients with severe COVID-19 illness, likelihood of survival was significantly higher in those who received combination of systemic steroids plus remdesivir compared to steroids and remdesivir alone (Table 5).

Table 1. Demographic and Clinical Profile of COVID-19 Patients

Patient characteristics	Total (n = 1,000)	Discharged (n = 695)	Died (n = 305)	P value
Age, median (IQR), years	56 (45-65)	53 (40-65)	62 (55-70)	0.001
Gender, no. (%)				
Male	646 (64.6)	446 (64.2)	200 (65.6)	0.670
Female	354 (35.4)	249 (35.8)	105 (34.4)	
Comorbid illnesses, no. (%)				
Hypertension	509 (50.9)	324 (46.6)	185 (60.7)	0.001
Diabetes mellitus	298 (29.8)	194 (27.9)	104 (34.1)	0.049
Chronic kidney disease	82 (8.2)	37 (5.3)	45 (14.8)	0.001
Malignancies	81 (8.1)	50 (7.2)	31 (10.2)	0.113
Chronic lung disease	52 (5.2)	28 (4)	24 (8)	0.012
Chronic liver disease	24 (2.4)	10 (1.4)	14 (4.6)	0.003
Cardiovascular disease	23 (2.3)	14 (2)	9 (3)	0.363
Cerebrovascular disease	21 (2.1)	14 (2)	7 (2.3)	0.776
Post-transplant	10 (1.0)	6 (0.9)	4 (1.3)	0.512
Vital signs				
Heart rate/min, median (IQR)	92 (82-106)	90 (80-104)	100 (84.75-112)	0.001
Systolic blood pressure (mmHg), median (IQR)	120 (110-130)	120 (110-130)	120 (107-132)	0.628
Respiratory rate/min, median (IQR)	21 (21-26)	20 (18-24)	24 (20-30)	0.001

Table 2. Laboratory Parameters of COVID-19 Patients

Laboratory parameters	Total (n = 1,000)	Discharged (n = 695)	Died (n = 305)	P value
Hb (g/dL), mean (SD)	11.9 (2.5)	12.19 (2.43)	11.12 (2.66)	0.001
TLC ($\times 10^9/L$), mean (SD)	8.35 (4.46)	7.69 (3.68)	10.21 (5.71)	0.001
NL ratio, median (IQR)	6.3 (2.8-12.6)	4.81 (2.29-9.22)	11.86 (6.22-22.63)	0.001
PLT ($\times 10^9/L$), mean (SD)	158.3 (85.95)	157.8 (80.95)	137.74 (83.91)	0.001
Creatinine (mg/dL), median (IQR)	1.03 (0.8-1.51)	0.72 (0.53-1.03)	1.44 (0.96-2.51)	0.001
Serum bilirubin (mg/dL), median (IQR)	0.63 (0.5-0.88)	0.61 (0.5-0.8)	0.96 (0.78-1.27)	0.001
Alanine transaminase (U/L), median (IQR)	36 (23-61)	38 (23-61)	33.5 (22-59.75)	0.291
Aspartate transaminase (U/L), median (IQR)	38.5 (23-51.75)	35 (22.5-48.5)	43 (37-60)	0.05
Alkaline phosphatase (U/L), median (IQR)	94 (74-123)	92 (72-118)	102 (77.5-141.5)	0.004
Serum albumin (g/dL), median (IQR)	3.2 (3.0-3.8)	3.4 (3.03-3.9)	3 (3-3)	0.001
Lactate dehydrogenase (U/L), median (IQR)	384 (267.75-525.25)	345 (262-482)	481 (393.25-694)	0.001
Creatinine phosphokinase (U/L), median (IQR)	96 (44.25-212)	90 (39-184)	151 (66-310)	0.002
Serum ferritin (ng/mL), median (IQR)	480 (289.5-933)	446 (259-885)	654 (388-1039)	0.011
Interleukin-6 levels (pg/mL), median (IQR)	34 (12.6-80.94)	26 (9-69)	61 (29-148)	0.001
INR, median (IQR)	1.14 (1.05-1.3)	1.13 (1.04-1.27)	1.19 (1.09-1.33)	0.001
APTT (seconds), median (IQR)	32.8 (30.5-36.8)	33 (30.5-37)	32 (30-37)	0.638
Prothrombin time (seconds), median (IQR)	15 (13.8-16.5)	15 (14-16)	15 (14-17.5)	0.003
Lactate dehydrogenase (U/L), median (IQR)	384 (267.75-525.25)	345 (262-482)	481 (393.25-694)	0.001
Creatinine phosphokinase (U/L), median (IQR)	96 (44.25-212)	90 (39-184)	151 (66-310)	0.002
D-dimer (ng/mL), median (IQR)	636 (239-1853)	584 (211-1455)	1053 (376-2451.5)	0.009

Hb = Hemoglobin; TLC = Total leukocyte count; SD = Standard deviation; IQR = Interquartile range; NL ratio = Neutrophil-to-lymphocyte ratio; PLT = Platelet; INR = International normalized ratio; APTT = Activated partial thromboplastin time.

Table 3. Effect of Various Treatment Modalities on Survival in COVID-19 Patients of All Severity

Treatment	Survivors (n = 695)	Nonsurvivors (n = 305)	OR* (95% CI)	P value
Oxygen supplementation	482 (69.3)	298 (97.7)	0.05 (0.02-0.11)	0.001
Remdesivir	305 (43.9)	108 (35.4)	1.42 (1.08-1.88)	0.012
Steroids	466 (67.1)	209 (68.5)	0.98 (0.69-1.24)	0.64
Antibiotics	613 (88.2)	266 (87.2)	1.09 (0.73-1.65)	0.65
Plasma therapy	57 (8.2)	31 (10.2)	0.79 (0.50-1.27)	0.31
Tocilizumab	15 (2.2)	11 (3.6)	0.59 (0.26-1.35)	0.18
Famotidine	528 (76)	183 (60)	2.10 (1.57-2.81)	0.001
Anticoagulants	410 (59)	224 (73.4)	0.52 (0.39-0.70)	0.001
Noninvasive ventilation	16 (2.3)	51 (16.7)	0.12 (0.07-0.21)	0.001
Invasive ventilation	3 (0.4)	36 (11.8)	0.03 (0.01-0.10)	0.001

*Odds ratio and 95% confidence interval for survival.

Table 4. Effect of Various Treatment Modalities on Survival in Severe COVID-19 Patients

Treatment	Survivors (n = 387)	Nonsurvivors (n = 271)	OR* (95% CI)	P value
Remdesivir	249 (64.3)	101 (37.3)	3.03 (2.20-4.17)	0.001
Steroids	344 (88.9)	191 (70.5)	3.35 (2.24-5.07)	0.001
Antibiotics	349 (90.2)	237 (87.5)	1.32 (0.81-2.13)	0.27
Plasma therapy	55 (14.2)	29 (10.7)	1.38 (0.85-2.24)	0.18
Tocilizumab	15 (3.9)	10 (3.7)	0.59 (0.26-1.35)	0.18
Famotidine	313 (80.9)	166 (61.3)	2.67 (1.88-3.77)	0.001
Anticoagulants	303 (78.3)	204 (75.3)	0.84 (0.58-1.22)	0.36
Noninvasive ventilation	14 (3.6)	41 (15.1)	0.21 (0.11-0.39)	0.001
Invasive ventilation	3 (0.7)	35 (13)	0.052 (0.01-0.15)	0.001

*Odds ratio and 95% confidence interval for survival.

Table 5. Treatment vs. Survival in Severe COVID-19

Treatment	Survivors (n = 387)	Nonsurvivors (n = 271)	OR (95% CI)	P value
Steroids only	121	109	0.67 (0.48-0.93)	0.017
Remdesivir only	26	19	0.95 (0.51-1.8)	0.88
Steroids plus remdesivir	223	82	3.13 (2.25-4.36)	0.001
None	17	60	0.16 (0.09-0.28)	0.001

Table 6. Multivariate Logistic Regression Analysis Adjusted for Age and Severity of Illness

Treatment	OR (95% CI)	P value
Remdesivir	2.69 (1.93-3.76)	0.000
Steroids	2.45 (1.57-3.82)	0.000
Famotidine	1.98 (1.35-2.90)	0.000

On multivariate regression analysis adjusted for age and severity of disease, use of remdesivir, systemic steroids and famotidine in management of COVID-19 illness was associated with significantly better survival (Table 6).

DISCUSSION

This retrospective study evaluated the effect of various medications used in the management of COVID-19 patients on survival. We observed that the use of remdesivir, steroids and famotidine significantly improved survival of hospitalized COVID-19 patients. Combination of remdesivir and steroids was better than remdesivir and steroids alone in improving survival.

Different modalities of treatment are under evaluation for different severities of COVID-19 illness. Symptomatic treatment is generally given for mild-to-moderate COVID-19 illness and inpatient supportive care plays an important role in moderate-to-severe illness. Many of the clinical trials have tried different treatment modalities for better management of COVID-19 patients and many more are under way for assessing the clinical outcome in terms of accelerating the viral clearance, reduction in duration of symptoms, halting the progression of disease, decreasing the need for mechanical ventilation and reducing mortality. The RCT by Wang et al failed to show any difference in time to clinical improvement with remdesivir compared to placebo (hazard ratio [HR] 1.23 [95% CI 0.87-1.75]), but this study was underpowered as only 237 patients were enrolled in the study.¹⁶ A subsequent RCT - Adaptive COVID-19 Treatment Trial (ACTT-1) - concluded that the use of remdesivir in hospitalized patients shortens the time to clinical improvement with no mortality benefit.¹⁷ One more RCT revealed that 5-day remdesivir along with standard treatment in patients with moderate COVID-19 had higher odds of a better clinical status vs. 10 days with standard care; however, there was no

mortality benefit.¹⁸ But the largest trial for remdesivir, the SOLIDARITY trial, demonstrated little or no benefit on initiation of ventilation, length of hospital stay and overall survival with the use of this drug.⁹ In our study, it was observed that the use of antiviral drug remdesivir in management of moderate-to-severe COVID-19 hospitalized patients was associated with significantly higher odds of survival. Our findings are supported by a Bayesian re-analysis of 4 clinical trials of remdesivir including 7,322 COVID-19 patients, demonstrating better survival in patients with oxygen but without requiring mechanical ventilation (probability of $\geq 1\%$ absolute decrease in mortality 81%) than patients on oxygen with mechanical ventilation (probability of $\geq 1\%$ absolute decrease in mortality 4%).¹⁹

Steroids have been the mainstay in the treatment of moderate-to-severe COVID illness. However, early use of corticosteroids in first week of viral pneumonia can lead to higher subsequent plasma viral load or prolonged SARS-CoV-2 virus shedding.^{20,21} Use of steroids in COVID pneumonia in second week has been found to be effective in improving the clinical condition of those with high inflammatory markers and worsening oxygenation.²² Earlier use of steroids in moderate-to-severe COVID-19 ARDS, as reported by Villar et al, demonstrated increase in ventilator-free days and reduction in overall mortality.²³ The RECOVERY trial demonstrated lower 28-day mortality in hospitalized COVID-19 patients on oxygen or on mechanical ventilation but this benefit was not seen in patients not receiving oxygen.⁶ A systemic review and meta-analysis including 44 studies evaluated the efficacy and safety of steroids and reported them to have beneficial effect on short-term mortality and reduction in mechanical ventilation requirement.⁷ In our study, it was observed that use of steroids in the subgroup of patients with severe COVID-19 illness was associated with significantly higher odds of survival. The combined effect of steroids and remdesivir on the outcome of COVID-19 patients has not been discussed much. A comparison study of remdesivir, with or without corticosteroids, by Garibaldi et al, has reported that concomitant use of these drugs does not reduce the time to death.²⁴

Although remdesivir is associated with faster clinical improvement, in the SOLIDARITY trial, there was no evidence of effect modification of remdesivir for patients (approximately 50%) who also received corticosteroids.⁹ However, the present study demonstrated better survival in patients receiving steroids along with remdesivir.

Famotidine is a histamine H₂-receptor antagonist that mainly suppresses gastric acid production. It has also been postulated that famotidine inhibits 3-chymotrypsin-like protease (3CLpro), an essential protein for viral replication.²⁵ Although literature regarding the use of famotidine in management of COVID-19 is sparse, results from few retrospective studies, including hospitalized patients, have demonstrated a reduced risk of in-hospital mortality and need for mechanical ventilation.²⁶⁻²⁸ In our study, famotidine was found to be associated with high odds of survival in patients with all grades of severity and was an independent predictor for better survival.

Tocilizumab, an IL-6 receptor monoclonal antibody, inhibits soluble IL-6 receptor and membrane IL-6. Initially, many of the randomized clinical trials and meta-analyses had demonstrated reduced likelihood of progression to mechanical ventilation but the overall all-cause mortality was not affected. Initial trials results were conflicting; however, in RECOVERY trial, tocilizumab showed improved survival and chances of discharge from hospital by 28 days and reduced chances of mechanical ventilation.^{10,11,13} The Randomized, Embedded, Multifactorial Adaptive Platform Trial for Community-Acquired Pneumonia (REMAP-CAP) trial demonstrated that tocilizumab use in critically ill patients along with standard of care decreased time to clinical improvement and lowered mortality.²⁹ The effect of tocilizumab on survival outcome could not be well-determined in our study because of use in only 36 patients in total, either because of unavailability or unaffordability.

RELEVANCE

The COVID-19 pandemic is the biggest public health crisis the world is facing currently since the Spanish flu outbreak of 1918. The pace and the number of clinical trials undertaken to investigate potential therapies for COVID-19 highlight both the need and capability to produce high-quality evidence, even in the middle of a pandemic. Majority of drug therapies, except a few, have not shown desired therapeutic efficacy.

LIMITATIONS

This retrospective analysis has few limitations to note. First, large volume and rapid pace with which published literature on the treatment of COVID-19 comes routinely means that findings from these researches and recommendations are constantly evolving as new evidence arises. Second, the published treatment data to date derive exclusively from observational data or

small clinical trials introducing higher risks of bias or imprecision regarding the magnitude of treatment effect size. Third, our study included adult patients only and the data may not be applicable to pediatric populations.

CONCLUSIONS

The COVID-19 pandemic definitely represents the biggest global public health crisis of this century and, potentially, since the Spanish flu of 1918. There is a need to undertake more large scale prospective randomized trials to determine the most effective drug therapies to treat the sick patients and prevent worsening of mild cases.

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BA.2 Tied to Higher Susceptibility of Infection among Households Than BA.1

According to a study in Denmark, Omicron subvariant BA.2 was found to be tied to higher likelihood of infection among households, irrespective of vaccination status, compared to the original BA.1 variant. In comparison with BA.1, BA.2 was tied to more than double the odds of infection among unvaccinated people (OR 2.19), vaccinated individuals (OR 2.45), and those who had received a booster shot (OR 2.99), noted Frederik Plesner Lyngse of University of Copenhagen and colleagues. Additionally, unvaccinated primary cases in households with BA.2 infection were linked with over twofold higher odds of transmission (OR 2.62), in comparison with BA.1 households.

It was noted that the transmissibility was lower in both BA.1 and BA.2 households if the primary case was vaccinated, with or without a booster shot. The findings are posted as preprint on medRxiv... (*Medpage Today, February 1, 2022*)

Antibody Combination may Prevent COVID-19 Symptoms in Asymptomatic Individuals

According to a new study published in *JAMA*, giving a subcutaneous antibody combination of casirivimab and imdevimab to asymptomatic individuals who have tested positive for SARS-CoV-2 can significantly reduce the incidence of symptomatic COVID-19 over 28 days.

The study included 314 participants, of whom 310 (99.7%) completed the efficacy assessment period. Overall, 204 were asymptomatic and tested seronegative at baseline and were included in the primary efficacy analysis. The administration of subcutaneous combination of casirivimab and imdevimab 1200 mg (600 mg each) significantly prevented progression to symptomatic illness (29.0% vs. 42.3% with placebo).

The findings point to a new potential for monoclonal antibody treatment, which is currently being used for post exposure prophylaxis and treatment of symptomatic COVID-19 infection... (*Medscape, February 2, 2022*)

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Symmetrical Peripheral Gangrene – A Rare Clinical Manifestation of Hodgkin’s Lymphoma

PRAVEEN KUMAR*, KALPANA CHANDRA†

ABSTRACT

Symmetrical peripheral gangrene (SPG) is a cutaneous manifestation of a wide array of infective and noninfective etiological factors and occurs due to hypoxemia, vasoconstriction, primary endothelial damage and/or decreased cardiac output. It is a devastating complication of underlying septicemia and disseminated intravascular coagulation (DIC) with a high mortality rate and commonly requiring amputation of the affected limb in those who survive. We here describe a case that presented with fever, cough, blackish discoloration of fingers and generalized lymphadenopathy. Investigation revealed anemia, leukocytosis, coagulopathy and positive D-dimer test. Fine-needle aspiration cytology (FNAC) showed evidence of Hodgkin’s lymphoma.

Keywords: Symmetrical peripheral gangrene, DIC, Hodgkin’s lymphoma

Symmetrical peripheral gangrene (SPG) is a rare clinical condition known for decades. It was first described by Hutchison in year 1891 in a 37-year-old male who developed gangrene in fingers, toes and ear lobule after shock. It manifests as marked coldness, pallor and cyanosis of the acral parts of the body, followed by acral ischemic damage and frank gangrene in two or more extremities without any evidence of obstruction or vasculitis of the relative artery. Rarely, it may be the presenting manifestation of malignancy or heralds its recurrence or metastasis. Here, we are discussing a case of SPG with Hodgkin’s lymphoma.

CASE REPORT

A 60-year-old female without any premorbidities presented with the chief complaints of fever for 5 months, cough with sputum and blackish discoloration of the fingers of both hands for 1 month. General examination revealed fever, pallor and dehydration. Pulse was 120/min, regular, normal in volume and

character without radio-radial or radio-femoral delay. All peripheral pulses, including dorsalis pedis, were palpable bilaterally. Respiratory rate was 22/min, regular, thoracoabdominal. Jugular venous pressure (JVP) was normal. Generalized lymphadenopathy was present in cervical, axillary and inguinal areas. Systemic examination revealed splenomegaly and scattered bilateral crepitations in lungs with normal cardiovascular and nervous systems. Local examination of both hands showed blackish discoloration, shrunken and dry index and middle fingers with a definite line of demarcation without any local rise of temperature or ulceration (Figs. 1 and 2). Investigation revealed hemoglobin (Hb) - 10.5 gm%; white blood cell (WBC) count - 28,700/cumm; differential leukocyte count (DLC) - N_{89%}L_{08%}Eo_{1%}Mo_{1%}; erythrocyte sedimentation rate (ESR) - 47 in first hour; red blood cell (RBC) - 3.8 million/cm³; peripheral blood smear (PBS) - normocytic normochromic with mild anisocytosis, mild poikilocytosis with few schistocytes and helmet cell; leukocytosis with neutrophilia with occasional myeloid precursors, no hemoparasite; platelet count 1.2 lacs; hepatitis B surface antigen (HBsAg) and anti-hepatitis C virus (HCV) - nonreactive; antinuclear autoantibodies (ANA) - negative; random blood sugar (RBS) - 109 mg/100 mL; renal function test (RFT) - within normal limits (WNL); urine R/E - WNL; blood and urine culture - sterile; prothrombin time (PT)/partial thromboplastin time (PTT) - prolonged; D-dimer - positive; lipid profile - normal; liver function test (LFT) - WNL. Chest X-ray P/A view showed

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Figure 1. Symmetrical peripheral gangrene of index and middle fingers of both hands (Palmar aspect).



Figure 2. Symmetrical peripheral gangrene of index and middle fingers of both hands (Dorsal aspect).

bilateral lung infiltrates and bilateral pleural effusion. Ultrasonography (USG) showed bilateral pleural effusion with moderate ascites. Fine-needle aspiration cytology (FNAC) of the cervical lymph node revealed cytomorphologically lymphoproliferative disorders suggestive of Hodgkin's lymphoma.

Final diagnosis - Hodgkin's lymphoma with septicemia and SPG.

DISCUSSION

Symmetrical peripheral gangrene is characterized by symmetrical distal ischemic damage at ≥ 2 sites with no major vascular occlusive disease. It is a rare syndrome associated with a multitude of underlying medical problems including various infections, myocardial infarction, congestive heart failure, hypersplenism, dog bite, Hodgkin's lymphoma, polymyalgia rheumatica, etc. It can also occur as a complication of malignant diseases, ergotism or protein deficiency. Existing data show that disseminated intravascular coagulation (DIC) might be associated with up to 85% of cases of SPG.

This rare syndrome is typically sudden in onset, symmetrical in nature and predominantly affects the upper extremities, and progresses rapidly to acral gangrene. The lower extremities, tip of the nose, borders

of the ears, genitalia and scalp are the other areas of predilection. There is no evidence of occlusion of large vessels or vasculitis with intact distal pulses. This makes the pathogenesis behind its causation difficult to explain with the current understanding of its pathology.

The pathogenesis of SPG may involve the Schwartzman reaction, release of bacterial endotoxin and platelet plugging in peripheral arterioles on account of vascular collapse and DIC. DIC seems the most common final pathway of the pathogenesis of SPG because of high association between DIC and SPG. The paradoxical syndrome seen in DIC is of consumptive coagulopathy with abnormal uncontrollable hemorrhages and intravascular clotting at microscopic level. It would explain the acral gangrenous changes of SPG, the lack of vasculitis in small vessels and the lack of thrombi in large vessels. Histopathological examination of amputated parts often reveals thrombi in the small vessels with sparing of large vessels without any features of vasculitis or inflammatory cell infiltrates on walls of the blood vessels.

In our case, the cause of gangrene was not clear. Sepsis seems to be responsible for SPG in this case. Sepsis and the underlying malignancy might have caused some degree of abrupt hypofibrinogenemia. The low level of fibrinogen might be associated with inappropriate microscopic clot formation. The patient was given treatment for septicemia, other supportive care and was planned for further management which was declined and lost to follow-up.

CONCLUSION

Symmetrical peripheral gangrene is a cause of significant morbidity and mortality, often requiring multiple limb amputations. DIC is a common finding in SPG and is likely the final common event that results in the characteristic clinical features. No treatment is effective. Early recognition, awareness of the condition and vigorous therapy of sepsis and DIC may prevent progression of gangrene and lead to a dramatic fall in high mortality rate associated with this syndrome. We present this case because of rare manifestation of Hodgkin's lymphoma with SPG.

Acknowledgment

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The authors are thankful to the Dean, SRMS-IMS, Bareilly, for granting permission to publish this case report.

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Home-based Physical Activity to Decrease Cancer Fatigue

A meta-analysis published in *Medicine & Science in Sports & Exercise* suggests that low to moderate physical activity done at home can help reduce fatigue in cancer survivors whose treatment is complete. Eleven studies involving 1,066 cancer survivors, mostly women with breast cancer history, were included in the meta-analysis. Home-based physical activity was found to improve fatigue for up to 9 months following the intervention, especially when it was assisted by frequent counseling. Researchers noted that adherence to the intervention was high and self-reported physical activity appeared to increase with time.

The researchers concluded that home-based physical activity associated with frequent counseling serves as an effective intervention to relieve fatigue in cancer survivors... (*Medscape, February 2, 2022*)

Ten Percent of People Who Died of Omicron were Vaccinated, Shows Study

Director General of the ICMR, Dr Balram Bhargava, said that only 10% deaths have been reported among fully vaccinated individuals who were hospitalized with infection due to the Omicron variant, compared with around 22% deaths among the unvaccinated or partially-vaccinated individuals, as he cited the results of a study. The study is based on data from the national clinical registry of COVID-19. Comorbidities continue to be a cause for concern as most people who succumbed to COVID-19 had at least one underlying disease. Nearly 91% of the fully vaccinated and 83% of the unvaccinated or partially-vaccinated people who died due to COVID had at least one comorbidity, according to the data. About 3% to 4% of the people infected with Omicron required hospital admission, said NITI Aayog member (health) Dr VK Paul... (*ET Healthworld – TNN, February 4, 2022*)

No Difference in COVID-19 Disease Progression Based on Trimester of Pregnancy

Among pregnant people with COVID-19, disease severity does not seem to be different on the basis of trimester of diagnosis, suggests a prospective, single-center cohort study.

The study included over 1,300 pregnant patients with asymptomatic or mild COVID-19. Investigators noted no differences in disease progression by trimester of infection. There were no significant differences in maternal or neonatal outcomes as well, based on the trimester of diagnosis. It was noted that moderate, severe or critical disease developed in 10% of pregnant patients who were asymptomatic initially. Hospitalization within 2 weeks of COVID-19 diagnosis was most common in the third trimester, and 90% of the admissions were associated with obstetric indications. After excluding obstetric indications, no difference was observed in hospital admissions by trimester. The findings were presented at the Society for Maternal-Fetal Medicine virtual meeting... (*Medpage Today, February 3, 2022*)

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CASE REPORT

Post-COVID Pediatric Budd-Chiari Syndrome

DHAN RAJ BAGRI*, NARESH BAIRWA†, JN SHARMA‡

ABSTRACT

Introduction: Budd-Chiari syndrome (BCS) is rare in children. Underlying etiologies, natural history and management differ in children and adults. Treatment options like liver transplantation and transjugular intrahepatic portosystemic shunt have also been less well-studied in children. Presented here is the case of a male child with BCS after coronavirus disease 2019 (COVID-19) infection. **Case presentation:** A 3-year-old male child presented with complaints of gradually increasing abdominal distension, constipation, decreased urine output, visible veins over abdomen and swelling in lower limbs and periorbital edema since last 15 days. He was diagnosed as BCS after multiple imaging investigations, including triple phase contrast-enhanced computed tomography (CECT) abdomen. His COVID antibody tested positive. **Conclusion:** Practice guidelines for children with BCS should be formulated, expert group recommendations should be reviewed and a consensus statement should be issued. Underlying etiology remains obscure despite extensive work-up in most of the children. Association of COVID-19 with BCS may be incidental but should be studied further as COVID is known to cause thrombotic complications.

Keywords: Budd-Chiari syndrome, pediatric BCS, COVID-19, TIPS, DIPS, anticoagulation in children

Budd-Chiari syndrome (BCS) is characterized by hepatic vein outflow tract obstruction when there is no cardiac failure or pericardial constriction. BCS was described by George Budd in 1846 as a syndrome of hepatic vein obstruction, followed by clinical-pathological description by Hans Chiari 53 years later, and substantiated by Parker in 1959 implicating thrombophilia as an underlying condition and use of anticoagulants in the mid-1980s. It is a rare liver disorder with an incidence of 0.2 to 4.1 cases per million per year and prevalence of 2.4-7.7 per million in Asian countries and 1.4-4 per million in Western countries. The condition is still considered rare in children. Female predominance in West (52-69%) and male predominance in Asian studies (48-70%) suggests epidemiological differences.

CASE PRESENTATION

A 3-year-old male child presented with complaints of gradually increasing abdominal distension, decreased

urine output, visible veins over abdomen (Fig. 1) and swelling in lower limbs and periorbital edema since last 15 days. The child was admitted for complaint of fever 1 month back for 3 days, elsewhere. He had normal



Figure 1. Veins over abdomen.

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development with head circumference - 49 cm, mid arm circumference - 13.7 cm, height - 92 cm (16th percentile) and weight - 12 kg (7th percentile).

On examination, pallor was present, and there was no lymphadenopathy. Liver was palpable 7 cm below right costal margin and spleen was palpable 5 cm below left costal margin with tense ascites and veins visible.

Routine investigations revealed a hemoglobin level of 10.3 g/dL; a total leukocyte count of 8,680 cells/mm³ and a differential leukocyte count of 88% neutrophils, 11% lymphocytes and 1% monocytes. Platelet count was $3.24 \times 10^3/\text{mm}^3$. Liver function tests showed total serum bilirubin of 1.17 mg/dL and direct 0.47 mg/dL (higher than normal value <0.3 mg/dL/<5.1 $\mu\text{mol/L}$). Alkaline phosphatase (954 IU/L), and aspartate and alanine aminotransferases (AST/ALT-88/210 IU/L) were also mildly elevated. The total serum proteins were 5.11 g/dL, with albumin levels of 3.6 g/dL. The serum electrolytes and the renal function tests were within normal limits. Prothrombin time (PT) and partial thromboplastin time with kaolin (PTTK) were normal with international normalized ratio (INR) 1.28. The ascitic fluid was grossly yellowish in color with nil red blood cell (RBC) and less than 5 WBC (white blood cell). Biochemical examination showed a protein level of 1.74 g/dL and serum ascites albumin gradient (SAAG) was 1.1. COVID antibody and C-reactive protein (CRP) were positive. Protein C, protein S, homocysteine and antithrombin III were normal. Viral markers for hepatotropic viruses tested negative.

Doppler ultrasonogram abdomen suggested liver size 11 cm, spleen 7 cm with gross ascites with altered echotexture, with periportal cuffing with pulmonary valve (PV) V_{max} 214 cm/sec, diameter 5.6 mm (intrahepatic), 6 mm at confluence, peri-gallbladder edema. Right hepatic vein was patent, middle and proximal part of middle hepatic vein was occluded and distal part was patent. Left hepatic vein had ostial



Figure 2. Triple phase CECT abdomen showing BCS.

stenosis and inferior vena cava (IVC) had stenosis just caudal to cavoatrial junction. Color Doppler studies showed obstruction of the hepatic veins with loss of the normal triphasic flow pattern with flow reversal. The IVC showed narrowing near the opening of the hepatic veins. A radiological diagnosis of BCS was given.

Contrast-enhanced computed tomography (CECT) scan of whole abdomen showed gross amount of free fluid in the peritoneal cavity, perihepatic and perisplenic region. Liver was enlarged with size approximately 126 mm. Portal vein appeared normal. Triple phase CECT abdomen done on Day 9 of admission showed mild hepatomegaly (128 mm) with heterogeneous contrast enhancement. Nonopacification of proximal portion of left and middle hepatic veins was seen. Moderate narrowing was seen at the origin of right hepatic vein and there was delayed faint opacification. Intrahepatic IVC appeared small in caliber. Moderate free fluid was seen in abdomen and pelvis (Fig. 2).

The child was given protocol treatment by multi-disciplinary team including pediatric gastroenterologist, nutritionist and pediatrician. Furosemide and spironolactone in ratio of 2.5:1 was started. Anticoagulation was started with heparin and was switched to long-term warfarin at target INR 2-3. Transjugular hepatic vein and transfemoral IVC balloon angioplasty were considered.

DISCUSSION

Pediatric BCS is a less well-described entity. Usual age of presentation is 10 (1.5-17) years, though 4 to 5 months old children have also been reported to be affected. BCS is responsible for about 3% to 7% of pediatric portal hypertension cases. Symptomatic chronic BCS is a usual presentation in children. Rapidly accumulating tense intractable ascites (83-96%), poorly controlled with diuretics is hallmark of pediatric BCS. Dilated tortuous veins (60-70%) with cephalad flow (above and below umbilicus) can be noted over abdomen and flanks. Similar collaterals over back with flow upwards characterize intrahepatic IVC obstruction. Synthetic functions are relatively preserved at presentation and the child is usually anicteric with firm hepatomegaly, near normal liver enzymes, low to normal albumin and has absence of coagulopathy. Variceal bleeding (8-25%), overt jaundice (13-24%), hepatic hydrothorax (20-36%) and growth failure (28-36%) are relatively uncommon features.

Antecedent thrombotic event resulting in hepatic venous obstruction is often unrecognized. Thrombosis,

phlebitis or web in the hepatic veins or IVC are common causes of BCS in children. In our case, middle and proximal part of middle hepatic vein was occluded left ventricular hypertrophy (LHV) had ostial stenosis and IVC had stenosis just caudal to cavoatrial junction. Among the children in India, outflow obstructions include isolated IVC (2-9%), isolated hepatic vein (74-100%) and combined hepatic vein-IVC (23-25%). Secondary causes are relatively rare in children.

Thrombophilia is a vital cause seen in BCS patients. Settings that raise suspicion of thrombophilia include associated portal or mesenteric vein thrombosis, thrombotic event in past, family history, associated systemic diseases, such as inflammatory bowel disease, systemic lupus erythematosus, etc., and recurrent stent block following intervention. Prothrombotic workup even when suggesting low quantitative levels of protein C, protein S, homocysteine and antithrombin III, is considered a measure of poor synthetic functions of the liver and a cause-and-effect relationship can't be established. Genetic mutation studies of the particular thrombophilia in a child and parents are confirmatory. A thrombophilic state in children requires lifelong anticoagulation therapy.

In our case, the child probably had chronic asymptomatic BCS which later became symptomatic during the pandemic in its natural history; process of chronicity in BCS requires time. Hence, COVID-19 may be an incidental exposure but may not be the causative phenomenon or precipitating factor of decompensation in our case. This should be studied further as COVID-19 is known to cause thrombotic complications.

Though invasive venography ± cavography is the gold standard for diagnosis of BCS, this procedure is deferred in pediatric cases until endovascular intervention is required. Doppler-ultrasonography (DUS), being radiation-free, is the procedure of choice for diagnosis of pediatric BCS (60-96%). Establishing radiological diagnosis requires skills and expertise in pediatric cases. We had to review the radiological investigations repeatedly in this case as imaging is of utmost importance in patients with BCS.

Management guidelines of pediatric BCS are lacking. Duration of disease, site of block, prothrombotic conditions, secondary causes and state of the liver are intervened individually. Balloon angioplasty is preferred in infants and younger children. Due to longer life span as compared to adults, most preferred method is balloon angioplasty with stenting, but poor availability of age-appropriate stent sizes is a limitation. Transjugular

intrahepatic portosystemic shunt (TIPS), modified TIPS or direct intrahepatic portocaval shunt (DIPS) are the shunts performed. Anticoagulation starting with heparin at radiological procedure and switching and continuation of long-term warfarin at target INR 2-3 is recommended. Life-long risk of anticoagulation after successful endovascular intervention is a major issue. More data is required on the underlying etiologies and thrombophilia in children. Liver transplantation is considered in end-stage liver disease, failure of radiological management and acute BCS presenting as acute liver failure.

CONCLUSION

Practice guidelines in children with BCS should be formulated and expert group recommendations should be reviewed. The diagnosis of BCS is established through imaging, primarily magnetic resonance imaging (MRI) and ultrasound. Direct features include occlusion of the hepatic veins or the IVC, and hepatic venous collaterals. Indirect features involve the morphological changes that develop secondary to the vascular lesions. Underlying etiology remains obscure despite extensive work-up in most of the children. The relatively enlarged liver in BCS entails choosing a large size stent, raising a query - whether the stent lengthens once the liver has sufficiently decongested or falls short as the child grows? Self-expandable metallic stent use and effects, long-term patency rates, technical and ethical issues of repeated stenting with exposure to repeated radiation during procedures in children over lifetime - these are all issues highlighting the need of prospective studies.

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Anxiety in Men Associated with Heart Disease, Diabetes Risk

According to a new study, published in the *Journal of the American Heart Association*, anxiety in midlife is tied to factors that heighten the risk for developing heart disease and diabetes later. The study looked at data from 1,561 men who were patients in the VA Boston outpatient clinic and enrolled in the Normative Aging Study. At the time of enrollment in 1975, the men were aged between 33 and 84 years (average age 53 years), and did not have heart disease, type 2 diabetes, stroke or cancer. Among healthy middle-aged men who did not have heart disease or diabetes (cardiometabolic disease), those with anxiety had a higher likelihood of having risk factors that are linked with higher cardiometabolic disease risk as they age. Participants with high levels of neuroticism or worry in midlife had higher odds of having a high cardiometabolic risk, characterized by having at least 6 of the following: systolic blood pressure >130 mmHg; diastolic blood pressure >85 mmHg; total cholesterol >240 mg/dL; triglycerides >150 mg/dL; BMI >30 kg/m²; glucose >100 mg/dL and erythrocyte sedimentation rate >14 mm/hour... (*WebMD, February 3, 2022*)

Omicron Variant may not be Milder Itself, Warn US Researchers

The milder outcomes of infection with the Omicron variant of coronavirus are possibly due to more immunity in the population rather than the properties of the virus, suggest US researchers. In a perspective article, in the *New England Journal of Medicine*, researchers stated that the lower severity with Omicron infections is most likely attributed to the factors related to the level of immunity among the infected individuals. Researchers from Massachusetts General Hospital and Harvard Medical School in the US stated that prior exposure would have led to a reduction in the severity of a subsequent infection with the Omicron variant. They also noted that the milder symptoms may partly be attributed to Omicron's ability to cause breakthrough infections and reinfections, including in individuals who have a stronger immune system and are better equipped to fight the infection... (*ET Healthworld – PTI, February 4, 2022*)

Booster Dose Recipients 97-fold Less Likely to Die of COVID Than Unvaccinated: CDC

People in the US who have received a COVID-19 booster dose appear to have a 97-fold lesser likelihood of death from COVID-19, compared to those who have not been vaccinated, suggests a new update from the CDC. Fully vaccinated Americans, who have received two doses, but no booster, have a 14-fold lesser likelihood of dying from COVID-19 compared to unvaccinated people. Director of the CDC, Rochelle Walensky, presented the latest figures based on the reports from 25 jurisdictions in early December. The number of average weekly deaths for unvaccinated individuals was 9.7 per 1,00,000 individuals, compared to 0.7 of those who were vaccinated and 0.1 of those who had been administered a booster shot. Walensky said that the data confirm that vaccination and boosters provide protection against severe disease and hospitalization, even during the Omicron wave... (*Medscape, February 3, 2022*)

Rare Form of Crusted Scabies in Diabetes: A Case Report

RACHNA VERMA*, VARUN KUMAR ARORA†, SANJAY KALRA‡, ASHOK KUMAR#, AJIT SRIVASTAVA¥, BHARAT JINDAL§

ABSTRACT

Crusted scabies is an uncommon manifestation of parasitic infection caused by *Sarcoptes scabiei* var. *hominis*. This variant of scabies is seen in various immunocompromised states. Uncontrolled diabetes is an immunocompromised state which is characterized by increased incidence of various infections, and rarely, may be associated with this rare crusted scabies, which may pose a real diagnostic challenge. A high index of suspicion is required for timely and correct diagnosis in the best interest of the patient and the public health point of view to prevent the spread of this highly contagious infestation.

Keywords: Crusted scabies, Norwegian scabies, diabetes

Infections are more common in patients with diabetes mellitus in comparison to those without diabetes and course of the infections is also more complicated in this group of patients.¹ Acquired defects in cellular innate and humoral immunity create an immunocompromised state and hence, incidence of more infections in uncontrolled diabetes.

Scabies is a skin disease caused by *Sarcoptes scabiei* var. *hominis*, an ectoparasite infestation, from family Sarcoptidae, class Arachnida, on the skin.² A less common variant of it is known as crusted (Norwegian) scabies, which is a severe manifestation of this highly contagious skin infection. Crusted scabies has been described in patients with known immunocompromised states, like leprosy, immune deficiency disorders, human immunodeficiency virus (HIV) infection, organ transplant, chronic high-dose corticosteroid therapy, malnutrition, lymphoma, malignancy and also in elderly persons and those with Down's syndrome and mental

retardation.³ Diagnosis may be delayed and obscured in atypical clinical presentations that may resemble psoriasis, seborrheic dermatitis or even erythroderma in some cases.

Here we are reporting a case of crusted scabies in an elderly woman with neglected uncontrolled diabetes.

CASE REPORT

A 58-year-old female was admitted with uncontrolled diabetes and itchy skin lesions. She had a long-standing history of type 2 diabetes mellitus with hypertension of duration 20 years which was poorly controlled throughout this period. She was having itchy lesions over her trunk, face and extremities, which developed over the last 2 years. The eruption was gradual in onset and insidious in progression. Although the itching was intense and widespread, she had no itching on hands and feet, which may be due to peripheral neuropathy because of long-standing diabetes.

On clinical examination, the patient was moderately built, weighed 69 kg, height 152 cm with body mass index (BMI) - 29.86 kg/m², blood pressure - 130/80 mmHg. On her dermatologic examination, there were widespread erythematous, hyperkeratotic/thickened plaques and excoriated areas on her trunk, face, scalp, ears and extremities. Intense hyperkeratosis with crusting and deep fissures were seen over elbows (Fig. 1A). Hyperkeratosis was also seen over hands with involvement of web spaces and wrist. Involvement of the nail plates was also seen with hyperpigmentation and cracking of the nail plates and subungual

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Figure 1A. Hyperkeratosis and deep fissures with excoriation over elbows. **1B** Ten days after treatment, there was significant improvement in itching and skin lesions started resolving.



Figure 2A. Thick crusted hyperkeratotic lesion over hands and interdigital region. Involvement of nail plates with hyperpigmentation and cracking of nail beds. **2B.** Same lesions with significant improvement 10 days after treatment.

hyperkeratosis (Fig. 2A). Crusting was also seen over scalp, face and ears (Fig. 3A). Over the period of last 2 years, the patient had received multiple topical treatments in the form of steroids and antihistamines with poor response. None of the family members who reside with the patient complained of pruritus or any other symptoms.

The laboratory examination revealed: White blood cells - 12,000 cells/mm³, platelet count - 1,28,000 cells/mm³, hemoglobin level - 7.8 g/dL, serum glutamic-oxaloacetic transaminase (SGOT) - 45 U/L, serum glutamic pyruvic transaminase (SGPT) - 38 U/L, serum creatinine - 0.6 mg/dL, fasting blood glucose - 180 mg/dL, postprandial glucose - 342 mg/dL. Her glycated hemoglobin (HbA1c) was 14.3%, thyroid-stimulating hormone (TSH) was 3.4 mIU/mL, total thyroxine (T4) was 8.6 µg/dL and



Figure 3A. Involvement of scalp and ear pinna with excoriated raw areas due to scratching of skin, which showed significant improvement after treatment (**3B**).

vitamin B12 level was 458 ng/dL. HIV serology and other viral markers were nonreactive. Neurological examination with Semmes-Weinstein monofilament of 10 g showed a result of 0/6 in both feet. She had complete absence of temperature sensation, pin prick sensation and vibration perception with 128 Hz tuning fork which signifies complete loss of protective sensation (LOPS) in foot and severe peripheral neuropathy.

Differential diagnosis included psoriasis, severe seborrheic dermatitis and eczema. Due to the involvement of interdigital spaces and keeping in mind the long duration of disease unresponsive to topical or oral steroids, scabies was also kept as a differential diagnosis and scraping of the skin was taken from the lesions on the patient's elbows and web spaces of the hands and nails. Scrapings were processed and prepared with 10% potassium hydroxide. On direct microscopic examination, a number of mites were seen (Fig. 4), hence confirming our diagnosis.

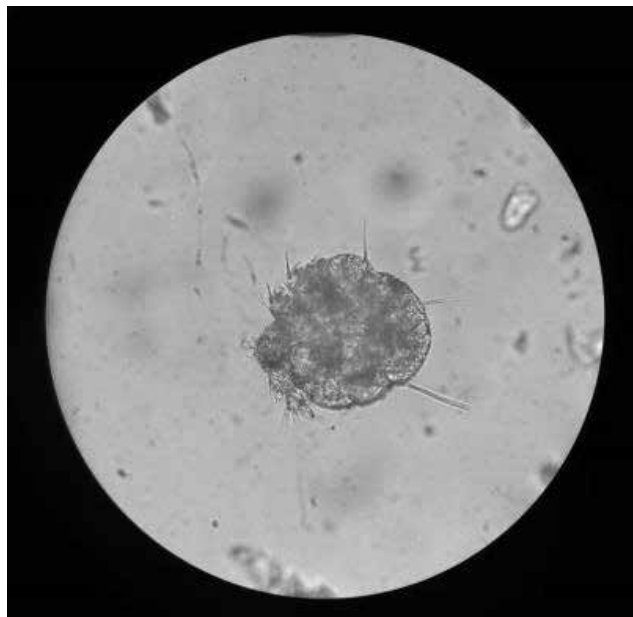


Figure 4. Mite of *Sarcoptes scabiei* from lesion scraping.

The patient was treated with topical 5% permethrin and oral ivermectin 12 mg. Permethrin 5% was given weekly for 3 weeks and ivermectin 12 mg was given on days 1, 2, 8, 9, 15 and 22.⁴⁻⁷ All the family members were treated with topical treatment with 5% permethrin weekly application for 3 weeks and were advised to thoroughly wash clothing and bedding with boiling hot water. Patient responded dramatically within a week of starting treatment with decrease in crusting and improvement in skin lesions and symptoms (Figs. 1B-3B).

DISCUSSION

Crusted scabies is a rare but severe manifestation of the common scabies, caused by the mite, *S. scabiei* var. *hominis*.² Diagnosis of crusted scabies may be delayed owing to its variable, and in many cases, atypical presentation and lower incidence. Immunocompromised patients like those with leprosy, immune deficiency disorders, HIV infection, organ transplant, chronic high-dose corticosteroid therapy, malnutrition, etc., are at increased risk of developing crusted scabies infestation.³ Uncontrolled diabetes is a state of immuno-incompetency due to varied mechanisms. Decreased immunoresponse causes hyperinfestation and eventually severe manifestations of scabies.

An important cause of development of crusted scabies is failure of a surmountable immune response in body to suppress the proliferation of the parasite. Patients with a defective T-cell immune response or decreased cutaneous sensation, like in various neuropathies, may

result in reduced ability to mechanically debride the mites by scratching, and hence, high parasite load. Hyperkeratosis of the skin, a prominent feature of crusted scabies, may be related to increased levels of cytokine interleukin-4.⁸ All the patients with this unusual presentation should be investigated for any underlying predisposing condition because immunocompetent individuals rarely develop crusted scabies.⁹

Itching is an important factor in the transport and transmission of parasites and destruction of burrows, which is usually absent in crusted scabies. Hence, the number of parasites may even exceed a million in crusted scabies and such patients are highly infectious.

In our patient, absence of itching in extremities may be due to peripheral neuropathy which is commonly found as a microvascular complication of long-standing diabetes mellitus and this may cause delayed detection and diagnosis of scabies.

The inflammatory response caused by heavy infestation may cause crusting and hyperkeratotic lesions. Though many clinical conditions like psoriasis, seborrheic dermatitis, dermatitis herpetiformis and chronic drug reactions may present with hyperkeratotic lesions of the skin, but in our patient, involvement of the web spaces with itching supported by the microscopic scrapings, nailed the diagnosis.

The treatment of crusted scabies is challenging because poor penetration of topical agents in hyperkeratotic skin and involvement of the nails and the high parasitic load may further complicate the clinical scenario. The patient must be isolated and the patient's bedding and clothes must be disinfected. Nails are a frequent source of relapse, so they should be trimmed and proper application of scabicide agent should be followed. A high index of suspicion is very important for timely diagnosis and treatment to avoid complications like impetigo, ecthyma or exfoliative dermatitis. In our patient, diabetes mellitus and associated neuropathy led to a delayed diagnosis of the condition, leading to unnecessarily prolonged misery for the patient.

We want to emphasize that the diagnosis of crusted scabies should be considered in resistant, long-standing, hyperkeratotic itchy skin lesions, in certain specific immunocompromised cases, and one of them is uncontrolled diabetes.

CONCLUSION

This case report signifies the importance of identifying crusted scabies with high suspicion in long-standing

crusted hyperkeratotic lesions in a debilitated patient with immunocompromised status.

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Midlife Conditions Tied to Dementia Later in Life

People having two or more chronic conditions, or multimorbidity, in midlife were shown to have a higher risk of subsequent dementia in a prospective cohort study.

Midlife multimorbidity increased the risk of dementia later in life more than twofold, reported researchers in the *BMJ*. Every 5-year younger age at the onset of multimorbidity increased dementia risk by 18%. The study included data from 10,095 British civil servants in the Whitehall II cohort aged between 35 and 55 years, who were dementia-free in 1985 to 1988. The prevalence of multimorbidity was 6.6% at 55 years of age and 31.7% at age 70 years. Overall, 639 cases of incident dementia were noted over a median follow-up of 31.7 years. The strongest associations were evident among those with multimorbidity at 55 years of age, while weaker associations were noted for onset of multimorbidity at older ages. Multimorbidity at age 55 was associated with 2.4-fold higher risk of dementia vs. having no or one chronic condition... (*Medpage Today, February 2, 2022*)

Inhaling Nitric Oxide could Kill SARS-CoV-2: Study

According to a study conducted by doctors at Amrita Hospital, Kochi, and Scientists from the School of Biotechnology at Amrita Vishwa Vidyapeetham, inhaled nitric oxide (iNO) is virucidal and can kill the SARS-CoV-2 virus. The study also noted that iNO could also prevent the virus' attachment to human host cells.

The feasibility trial done at Amrita Hospital noted that COVID-19 patients who were given iNO therapy had a faster recovery with lesser complications and zero mortality rates in comparison with patients who were given standard COVID-19 treatment without iNO therapy.

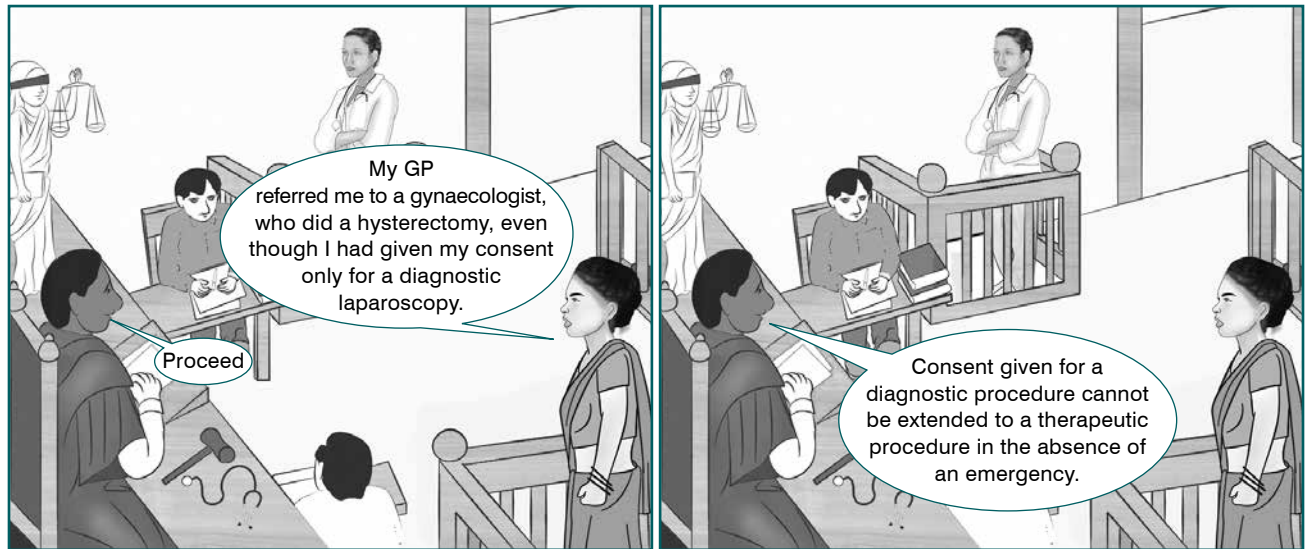
The study included 25 patients, of whom 14 received iNO therapy along with standard COVID-19 treatment, and 11 patients formed the control group and received standard treatment alone. The iNO therapy group had a significant decline in their viral load... (*ET Healthworld – IANS, February 5, 2022*)

Alzheimer's-like Changes Reported in COVID Patients' Brain

It has been reported in small studies that people who die of severe COVID-19 showed abnormalities resembling Alzheimer's disease.

In a study published in *Alzheimer's and Dementia*, it has been reported that defective ryanodine receptors linked to the accumulation of tau into neurofibrillary tangles that are present in Alzheimer's disease, were also reported in high levels in the COVID-19 patients' brains. In the study, researchers studied the brains of 10 COVID-19 patients and detected defects in proteins called ryanodine receptors that manage the passage of calcium into cells... (*Reuters, February 5, 2022*)

Consent for Diagnostic Procedure cannot be Extended to Therapeutic Procedure



Lesson: In the landmark *Samira Kohli vs. Dr Prabha Manchanda & Anr* on 16 January, 2008 Appeal (civil) 1949 of 2004, the Supreme Court of India held "19. ...in Medical Law, where a surgeon is consulted by a patient, and consent of the patient is taken for diagnostic procedure/surgery, such consent cannot be considered as authorisation or permission to perform therapeutic surgery either conservative or radical (except in life-threatening or emergent situations). Similarly, where the consent by the patient is for a particular operative surgery, it cannot be treated as consent for an unauthorised additional procedure involving removal of an organ, only on the ground that such removal is beneficial to the patient or is likely to prevent some danger developing in future, where there is no imminent danger to the life or health of the patient."

CASE SUMMARY

- **May 9, 1995:** The patient 'X', an unmarried woman aged 44 years, consulted Dr 'A' complaining of prolonged menstrual bleeding for 9 days. An ultrasound was done and after examining the report, patient was advised to come back the next day for laparoscopy to make an affirmative diagnosis.
- **May 10, 1995:** Patient was admitted to the clinic and laparoscopy was done under general anaesthesia. While the patient was still in the OT and under anaesthesia, consent for hysterectomy was taken from the mother. Abdominal hysterectomy and bilateral salpingo-oophorectomy was done by Dr 'A'.
- **May 15, 1995:** Patient left the clinic without settling the bill.
- **May 23, 1995:** Dr 'A' filed a complaint with the Police alleging threat from the patient's friend, who got her discharged against medical advice and without clearing the bill.
- **May 31, 1995:** Patient filed a complaint against the doctor alleging negligence and unauthorised removal of her reproductive organs.
- **June 6, 1995:** A legal notice was issued by the doctor to the patient demanding Rs. 39,325/- as fees.
- **January 19, 1996:** Patient filed a complaint before the National Consumer Disputes Redressal Commission (NCDRC) claiming compensation of Rs. 25 lakhs from Dr 'A' alleging negligence and that removal of her uterus and both ovaries was "unlawful, unauthorised and unwarranted". She claimed compensation "for loss of reproductive organs, loss of opportunity to become a mother, diminished matrimonial prospects, loss of vital body organs, irreversible body damage as well as for pain and emotional trauma."

- **November 19, 2003:** NCDRC dismissed the complaint and decided in favor of the doctor. The Commission held that *“the patient had voluntarily gone to the clinic for treatment ... the hysterectomy had been done with adequate care and caution and the surgical removal of uterus, ovaries etc. was necessitated as the appellant was found to be suffering from endometriosis (Grade IV), and if they had not been removed, there was likelihood of the lesion extending to the intestines and bladder and damaging them.”*
- Patient filed an appeal in the Supreme Court against this decision of the NCDRC.
- **January 11, 2008:** The Supreme Court delivered judgement in favour of the patient.

SOME SALIENT COURT OBSERVATIONS

- *“14. Consent in the context of a doctor-patient relationship, means the grant of permission by the patient for an act to be carried out by the doctor, such as a diagnostic, surgical or therapeutic procedure. Consent can be implied in some circumstances from the action of the patient. Except where consent can be clearly and obviously implied, there should be express consent. There is, however, a significant difference in the nature of express consent of the patient, known as ‘real consent’ in UK and as ‘informed consent’ in America...”*
- The Court also summarised the principles relating to consent.
 - “32. (i) A doctor has to seek and secure the consent of the patient before commencing a ‘treatment’ (the term ‘treatment’ includes surgery also). The consent so obtained should be real and valid, which means that: the patient should have the capacity and competence to consent; his consent should be voluntary; and his consent should be on the basis of adequate information concerning the nature of the treatment procedure, so that he knows what is consenting to.*
 - (ii) The ‘adequate information’ to be furnished by the doctor (or a member of his team) who treats the patient, should enable the patient to make a balanced judgement as to whether he should submit himself to the particular treatment as to whether he should submit himself to the particular treatment or not. This means that the Doctor should disclose (a) nature and procedure of the treatment and its purpose, benefits and effect; (b) alternatives if any available; (c) an outline of the substantial risks; and (d) adverse consequences of refusing treatment...*
 - (iii) Consent given only for a diagnostic procedure, cannot be considered as consent for therapeutic treatment.*
- *Consent given for a specific treatment procedure will not be valid for conducting some other treatment procedure... The only exception to this rule is where the additional procedure though unauthorised, is necessary in order to save the life or preserve the health of the patient and it would be unreasonable to delay such unauthorised procedure until patient regains consciousness and takes a decision.*
- (iv) There can be a common consent for diagnostic and operative procedures where they are contemplated. There can also be a common consent for a particular surgical procedure and an additional or further procedure that may become necessary during the course of surgery.*
- (v) The nature and extent of information to be furnished by the doctor to the patient to secure the consent need not be of the stringent and high degree ... but should be of the extent which is accepted as normal and proper by a body of medical men skilled and experienced in the particular field...”*
- The legal notice issued by Dr ‘A’, wherein the patient had been asked to pay a sum of Rs. 39,325/- towards the bill amount *“also makes it clear that the appellant was not admitted for conducting hysterectomy or bilateral salpingo-oophorectomy, but only for diagnostic purposes.”* The Court also pointed out an erroneous statement in the notice, which said that the video recording of the procedure was shown to the mother and both the patient and her mother were informed that because of the extensive lesion, which became evident only after diagnostic laparoscopy, *“more extensive surgery was preferable”*. *“When the laparoscopy and video recording was made, the appellant was already unconscious. Before she regained consciousness, AH-BSO was performed removing her uterus and ovaries.”* So, the statement in the legal notice was factually incorrect.
- *“40. The consent form shows that the appellant gave consent only for diagnostic operative laparoscopy, and laparotomy if needed... It does not amount to consent for AH-BSO surgery removing the uterus and ovaries/fallopian tubes. If the appellant had consented for AH-BSO then the consent form would have given consent for “diagnostic and operative laparoscopy. Laparotomy, hysterectomy and bilateral salpingo-oophorectomy, if needed.”*
- Dr ‘A’ submitted that the consent given by the mother for the additional procedure should be regarded as a valid consent. In response, the Court said: *“The appellant was neither a minor, nor mentally challenged, nor incapacitated. When a patient is a competent adult, there is no question of someone*

else giving consent on her behalf. There was no medical emergency during surgery... The respondent ought to have waited till the appellant regained consciousness, discussed the result of the laparoscopic examination and then taken her consent for the removal of her uterus and ovaries. In the absence of an emergency and as the matter was still at the stage of diagnosis, the question of taking her mother's consent for radical surgery did not arise. Therefore, such consent by mother cannot be treated as valid or real consent...Further a consent for hysterectomy, is not a consent for bilateral salpingo-oophorectomy."

- ⇒ "48. We find that the Commission has, without any legal basis, concluded that "the informed choice has to be left to the operating surgeon depending on his/her discretion, after assessing the damage to the internal organs, but subject to his/her exercising care and caution". It also erred in construing the words "such medical treatment as is considered necessary for me for__." in the consent form as including surgical treatment by way of removal or uterus and ovaries."
- ⇒ A diagnosis of endometriosis was made after diagnostic laparoscopy, which is managed either conservatively or by hysterectomy depending on the patient's age and stage of the disease. The Court observed: "52... worldwide studies show that most hysterectomies are conducted unnecessarily by Gynaecologists demonstrates that it is considered as a favoured treatment procedure among medical fraternity, offering a permanent cure. Therefore respondent cannot be held to be negligent, merely because she chose to perform radical surgery in preference to conservative treatment. This finding however has no bearing on the issue of consent which has been held against the respondent. The correctness or appropriateness of the

treatment procedure, does not make the treatment legal, in the absence of consent for the treatment."

- ⇒ "54. In view of our finding that there was no consent by the appellant for performing hysterectomy and salpingo-oophorectomy, performance of such surgery was an unauthorised invasion and interference with appellant's body which amounted to a tortious act of assault and battery and therefore a deficiency in service... This is a case of respondent acting in excess of consent but in good faith and for the benefit of the appellant... On the facts and circumstances, we consider that interests of justice would be served if the respondent is denied the entire fee charged for the surgery and in addition, directed to pay Rs. 25,000 as compensation for the unauthorised AH-BSO surgery to the appellant."

FINAL JUDGEMENT

The Supreme Court cancelled the NCDRC order and partly allowed the patient's claim for compensation as follows: "If the respondent has already received the bill amount or any part thereof from the appellant (either by executing the decree said to have been obtained by her or otherwise), the respondent shall refund the same to the appellant with interest at the rate of 10% per annum from the date of payment till the date of re-payment. The Respondent shall pay to the appellant a sum of Rs. 25,000/- as compensation with interest thereon at the rate of 10% per annum from 19.11.2003 (the date of the order of Commission) till date of payment. The appellant will also be entitled to costs of Rs. 5,000 from the respondent."

REFERENCE

1. Samira Kohli vs Dr. Prabha Manchanda & Anr on 16 January, 2008 Appeal (civil) 1949 of 2004.



Vaccine Effectiveness of 99.3% Observed in People Fully Vaccinated Against COVID-19: Union Health Minister

Vaccine effectiveness of 99.3% has been observed in people who are fully vaccinated against COVID-19, suggest data uploaded on India COVID-19 Tracker till January 2.

The India COVID-19 Vaccine Tracker has been developed by the ICMR, merging three national databases, CoWIN, National COVID-19 Testing database and COVID-19 India portal, stated Health Minister Mansukh Mandaviya in a written reply to the Lok Sabha. The tracker shows vaccine effectiveness against death, i.e., the potential of vaccines to reduce death, making use of person time analysis from April 12, 2021 to January 2, 2022. The minister said that according to the latest data analyzed and uploaded till January 2, a vaccine effectiveness of 99.3% has been seen in fully vaccinated individuals against COVID-19.

He further mentioned that the tracker is regularly updated and shows the effectiveness of partial and full vaccination... (TOI – PTI, February 4, 2022)

HCFI Dr KK Aggarwal Research Fund

Minutes of an International Weekly Meeting on COVID-19 Held by the HCFI Dr KK Aggarwal Research Fund

Topic: COVID protocols followed by various countries

8th January, 2022 (Saturday, 9.30 am-11 am)

- **Singapore:** There were 2,522 Omicron cases in the country as of 6th January, 2022. This is because the country is opening up through VTL (vaccine travel lanes) with several countries, including Europe. Out of these, only three required oxygen and no patient was in intensive care unit (ICU), compared to Delta, where 30 would require oxygen, be in ICU or died. The vaccination differentiated safe management measures (VDS) is starting from 14th February, 2022. If somebody has not taken the booster, then he/she is given 5 to 9 months after the second dose to take the booster. Health protocols have been defined for three groups: unwell, well but test positive and identified by the Ministry of Health (MoH) as close contact of an infected person. If well but test positive, self-isolate at home. Repeat rapid antigen test (RAT) after 3 days; if negative, then self-isolation can be discontinued. If unwell, get tested and if positive self-isolate at home for 10 days if vaccinated and 14 days if unvaccinated or partially vaccinated. A close contact of an infected person is required to take RAT and upload results on the website. Repeat RAT and go out only if negative. If negative after 7 days then no further test needed. Around 11% of children aged 5 to 11 years have taken their first dose of coronavirus disease 2019 (COVID-19) vaccine. The Pfizer vaccine has been authorized for use in this age group. For those who have taken Sinopharm and Sinovac vaccines, three doses of the same are considered as the primary complete vaccine course in Singapore.
- **Malaysia:** Omicron is in the country, but the cases are not as rampant as the Delta variant. Yesterday, there were 3,381 new cases. Out of these, 98.9% were category 1 cases and 1.1% were in categories 3 to 5. Saliva test kit is now available, the price of which is regulated by the government. If positive, then to be confirmed with RAT/RT-PCR (reverse transcription polymerase chain reaction). Category 1 to 3 patients can remain at home and if negative, then they can go out. There are standard operating procedures (SOPs) like face masks, hand wash, social distancing and the government is encouraging people to follow these SOPs. The vaccination program is going on and there is a lot of hesitancy about booster. People are apprehensive about mix and match of vaccines. All children aged 12 to 17 are all vaccinated with 2 doses, but vaccination for the 5- to 11-year age group is not started yet.
- **Pakistan:** The country is in the fifth wave. Self-care is priority. After exposure to COVID-19, it is advised to get RT-PCR done as no home test kits are available. If positive, they are advised to stay at home and self-isolate and follow SOPs like masks and handwashing. Repeat test after 3 days, if negative then come out of the isolation. In the hospitals, treatment protocols are in place. The telehealth system is working very effectively in Sind province. Positive cases are monitored by telehealth. A total of 73 million (32%) people have had both vaccine doses and 99 million have taken the first dose. Booster dose has been authorized for ≥ 30 years. Pfizer vaccine is used as booster. Children older than 12 years are being offered vaccination in their schools, but parents are hesitant. Cases are increasing. In the last 24 hours, there were 1,292 new cases, 6 deaths, 1.2 million have recovered. People are not following SOPs. The spread of Omicron is slow. There are 372 omicron cases. The NCOC (National Command Operation Center) meets every 2 weeks.
- **USA:** There is a rapid surge in cases across the country. The Pfizer vaccine is approved for booster in children aged 12 to 15 years. Flurona has been reported. Total cases are 59,846,235, of which 9,00,000 are new cases today; 2,645 deaths, over 3 million tests and 5,000 were hospitalized and 409 were in ICU. This week, the Centers for Disease Control and Prevention (CDC) reduced the isolation time from 10 days to 5 days. There is shortage of home test kits. Isolation has been reduced to 5 days after a positive COVID test. Testing has not been included in the CDC recommendations on return to work/school. There is an increase in pediatric cases and hospitalizations. For the week ending December 30, more than 3,25,000 pediatric cases

were reported, indicating a 64% increase over the 1,99,000 cases reported in the week ending December 23. Pfizer vaccine has been approved as booster for 12 to 15 years. Sotrovimab has been found to be effective in treating the Omicron variant. Paxlovid and molnupiravir are to be used in the outpatient setting only. Cases of Flurona (concurrent influenza infection and severe acute respiratory syndrome coronavirus 2 [SARS-CoV-2]) have been reported.

- **Australia:** There were no cases in Western Australia, but cases were rapidly increasing in the states of Victoria and New South Wales (NSW). A major problem is the impact on the work force. The supply chain is affected. The gap for the booster has been reduced to 4 months from the last (second) dose and from the end of this month, a 3-month gap will be required. Vaccination for children aged 5 years will start from Monday. Pfizer and Moderna vaccines are given as booster. Because of inadequate supply of RT-PCR, RATs have now been opened up. If a person tests positive on RAT, then start isolation and mandatory reporting of RATs is required. Restrictions are coming back and masks are mandatory except in Western Australia. Cases in NSW are expected to peak in first week of February.
- **Japan:** The country is in the midst of the sixth wave. Okinawa US base is the epicentre; 2,000 out of 1,00,000 tested positive in last 7 days. There are no deaths and no patient in ICU/ventilator. About 80% have received two vaccine doses. Booster for medical staff and elderly has started. For symptomatic, 10 days quarantine; close contacts for 14 days quarantine. There is a mild lockdown in some cities.
- **South Africa:** There are no restrictions on movement from 31st of December. Wearing a mask is compulsory. There is emphasis on social distancing, handwashing and avoiding crowds. Children more than 12 years are being vaccinated. We saw a very fast spread of the infection. The numbers came down as fast as they went up. Omicron is a mild disease. No differentiation between vaccinated and unvaccinated cases in mild disease, but difference is seen in hospital cases, where the majority are unvaccinated. The number of patients ventilated (304) has remained constant over the last few days. Patients on oxygen 1,300; new cases in the last 24 hours 9,260, deaths 140, positivity rate was 20.2%; 361 admissions in the

last 24 hours. The unvaccinated and 50+ patients are likely to have severe disease. Treatment protocol includes dexamethasone for patients requiring oxygen supplementation or mechanical ventilation; heparin prophylaxis is given. However, chloroquine, hydroxychloroquine, ritonavir + lopinavir, colchicine, azithromycin and nonsteroidal anti-inflammatory drugs (NSAIDs) are not recommended for COVID management. No contact tracing is done now. Isolation has been shortened. Lockdown has been lifted. Omicron is still treated as a mild disease.

- **Philippines:** Last week there were less than 400 cases per day. But starting January, there is a surge in cases due to Omicron. Yesterday, there were 21,819 new cases and 129 deaths, and 77,369 active cases. Total number of cases was 2.9 million and total deaths were 51,871 in number. From January 3, the alert level has been increased from Level 2 to Level 3 until the end of January. Under the new quarantine guidelines issued by the Dept. of Health, fully vaccinated persons must quarantine themselves after exposure for 7 days, while the unvaccinated persons must quarantine for 14 days. For confirmed cases, mild-to-moderate patients must isolate for 10 days from the time of onset of symptoms. Asymptomatic persons must isolate for 10 days from the time of testing. Cases are increasing in children. The vaccination for 5- to 11-year age group will commence in February. So far, 51 million people have been vaccinated, the target is 70 to 80 million.
- **India:** The third wave is now here. In the last week of December, there were around 8,000 cases, but within a week, the numbers have spiralled and now there are up to 1.4 lakh daily new cases. The total number of Omicron cases as of today is around 4,000 and 2 deaths have been reported. So far, Omicron is characterized as a mild disease. About 94% people have taken the first dose, while 64% are fully vaccinated with two doses. Children aged 15 to 18 years are now eligible for vaccination with Covaxin. From 15th, booster dose will be available to healthcare workers and the elderly and those with comorbidities. The same vaccine as the primary vaccine will be given as booster. There is no mix and match of vaccines. The test positivity is 7.6%. Hospital admissions have reduced from 10% to 8%, while ICU admission rate is 0.8% of all admissions. The number of cases is increasing, but mortality and severity are not increasing. Night

restrictions and weekend curfew are in place in some cities. The number of persons in indoor gathering is limited to <100. Seven-day quarantine with RAT is required for international travelers. Category A (mild) patients can self-isolate at home. But if symptoms increase then they are required to report to dedicated hospitals. Category B patients include patients more than 65 years old even with mild symptoms and those with comorbidities. Category C patients are those with severe symptoms. The first-line of management is monoclonal antibodies cocktail given as day care. Molnupiravir has been granted emergency use authorization (EUA), but is not available yet.

(Information as on the day of meeting)

Participants – Member National Medical Associations:

Dr Yeh Woei Chong, Singapore, Chair-CMAAO; Dr Marthanda Pillai, India Member-World Medical Council, Advisor-CMAAO; Dr Wasiq Qazi, Pakistan, President-elect-CMAAO; Dr Ravi Naidu, Malaysia; Dr Angelique Coetzee, South Africa; Dr Akhtar Hussain, South Africa; Dr Benito Atienza, Philippines; Dr Salma Kundi, Pakistan; Dr Qaiser Sajjad, Pakistan; Dr Md Jamaluddin Chowdhury, Bangladesh; Dr Marie Uzawa Urabe, Japan

Invitees: Dr Russell D'Souza, Australia UNESCO Chair in Bioethics; Dr Monica Vasudev, USA; Dr Mulazim Hussain Bukhari, Pakistan; Dr Anita Dhar, India; Dr Arun Jamkar, India; Dr S Sharma, Editor-IJCP Group

Moderator: Mr Saurabh Aggarwal

Coronavirus Updates

Post-COVID executive dysfunction in young

Persons with history of previous COVID-19 infection reported more cognitive dysfunction, particularly executive dysfunction, compared to persons who did not have the infection, according to a new medRxiv study of 1958 young and middle-aged adults. Compared to persons with asymptomatic infection, those who had moderate and very/extremely severe disease experienced greater dysfunction. This effect was stronger for men than for women, and for younger compared to older adults. Researchers used four "self-restraint" subscale items from the Deficits in Executive Functioning Scale, short form (BDEFS-SF) to assess executive dysfunction(Source: medRxiv)

Atypical manifestations of COVID-19

Researchers have reported the case of a 34-year-old man who presented with a new onset of hallucination and a

5-day history of anxiety. The patient had no past history of any medical condition or any complaints of headache, visual changes, seizures or body weakness. He was a nonsmoker and did not consume alcohol/drugs. He was tested for COVID-19 with nasopharyngeal RT-PCR in the ED due to a history of contact with sick patients in his family, which was positive. This case report highlights the need that physicians should be aware about atypical manifestations of COVID-19. Any new symptom must be carefully considered, keeping in view the local epidemiology... (Source: *Case Reports in Psychiatry*. 2021 Dec 30.)

CoronaVac two doses + Pfizer booster less effective against Omicron

A preprint study conducted in vaccinated volunteers from Dominican Republic suggests that two doses of the inactivated CoronaVac COVID-19 vaccine followed by Pfizer booster generated comparable antibody response against ancestral virus and Delta variant to that seen after two doses of mRNA vaccines, while the neutralization titers against Omicron were significantly lower. Antibody levels against Omicron declined 6.3-times when compared with the ancestral variant and 2.7-times when compared with the Delta variant. None of the participants who had taken just the two doses of CoronaVac showed neutralizing antibodies against Omicron...(Source: medRxiv, Dec. 29, 2021)

WHO recommends two new drugs for COVID-19

The WHO has added two new drugs in the treatment armamentarium of COVID-19, baricitinib and sotrovimab, in its eighth update of WHO's living guidelines on therapeutics and COVID-19. Baricitinib, a Janus kinase (JAK) inhibitor, is strongly recommended for patients with severe disease or those who are critically ill with COVID-19. It is recommended to be given with corticosteroids. The second drug, sotrovimab, is a monoclonal antibody indicated for mild or moderate COVID-19 patients at high risk of hospitalization, such as patients who are older, immunocompromised or with comorbid conditions, such as diabetes, hypertension and obesity and those who have not taken the vaccine... (Source: WHO, Jan. 14, 2022)

Some US states are allowing asymptomatic and mildly infected healthcare workers to continue working

The surge in Omicron cases has overwhelmed hospitals and resources in the US. Many hospitals are facing severe shortage of hospital staff as many of them are now infected with SARS-CoV-2. Taking this into consideration, states like California, Arizona, Rhode

Island are permitting those hospital staff, infected with coronavirus, to continue working if they are either asymptomatic or have mild symptoms. Last month, in its guidance for healthcare workers, the CDC had said that "Healthcare workers with COVID-19 who are asymptomatic can return to work after 7 days with a negative test, and that isolation time can be cut further if there are staffing shortage"... (Source: *Medscape*, January 11, 2022)

Immune escape of Omicron variant

A *Nature* study has demonstrated considerable escape of SARS-CoV-2 Omicron to neutralization by antibodies. The sensitivity of the Omicron virus was tested against nine monoclonal antibodies (mAbs) and antibodies present in 115 sera from either convalescent patients or those who had been vaccinated from the Orleans Cohort. Omicron was found to be completely or at least partially resistant to neutralization by all monoclonal antibodies tested in this study as well as vaccine-induced antibodies. However, Omicron was susceptible to the booster dose of Pfizer vaccine, though with 6- to 23-fold lower titers against Omicron compared to against Delta... (Source: *Nature*, Dec. 23, 2021)

Last ICU bed should be given to patient with best chances of survival, reveals survey

Results of a new survey conducted between 28th August and 4th September, 2020, reported in the *Emergency Medicine Journal* show that the respondents were in favor of giving the last available ICU bed to the patient who had the highest odds of surviving COVID-19. Age of the patient did not influence the decision of the people surveyed. Younger respondents (under 30 years of age) were more likely to choose young and old patients, and were less likely to select patients aged 40 to 60 years old. Conversely, as the age of the patient declined, the preference for saving the patient showed a modest decline for respondents aged 30 to 49 years... (Source: *Emergency Medicine Journal*, Jan. 3, 2022)

Need to update COVID-19 vaccines, says WHO Technical Advisory Group

The Technical Advisory Group on COVID-19 Vaccine Composition (TAG-CO-VAC), a WHO Technical Group, has said that "the composition of current COVID-19 vaccines may need to be updated, to ensure that COVID-19 vaccines continue to provide WHO-recommended levels of protection against infection and disease by VOCs, including Omicron and future

variants". According to the expert group, vaccines that not only protect against severe disease but also prevent infection are needed. The vaccine could be a multivalent vaccine or monovalent vaccine against the predominantly circulating variant... (Source: *WHO*, Jan. 11, 2022)

Myocardial inflammation in patients recovered from mild COVID-19

A recent study reports that some patients recently recovered from COVID-19 can have myocardial inflammation, which can present without any cardiac symptoms. In this single-center study, 8 out of the 47 patients enrolled, showed focal fluorodeoxyglucose (FDG) uptake on positron emission tomography (PET) consistent with myocardial inflammation. They also had high levels of inflammatory blood markers including interleukin 6, interleukin 8 and high-sensitivity C-reactive protein (hsCRP). These findings were seen to improve on follow-up... (Source: *JAMA Cardiology*, Jan. 12, 2022)

Physician burnout increased during COVID, reveals Medscape survey

The COVID-19 pandemic has augmented the problem of physician burnout. According to the Medscape's National Burnout and Depression Report 2022, 47% physicians reported feeling burnout compared to 42% last year. The survey included more than 13,000 physicians from 29 specialties. Expectedly, emergency physicians topped the list at 60% followed by critical care specialists at 56%, ob/gyn at 53% and infectious disease and family medicine at 51% each. Women physicians reported more burnout than men physicians (56% vs. 41%)... (Source: *Medscape*, Jan. 21, 2022)

Genetic factor associated with loss of smell and taste in COVID patients

A new study published in *Nature Genetics* has suggested that the loss of smell and taste during COVID-19 may be due to a genetic risk factor. Results of a multi-ancestry genome-wide association study show that a locus near the UGT2A1 and UGT2A2 genes, expressed in the olfactory epithelium, is associated with the loss of smell and taste. Presence of this genetic risk factor increases the chances of loss of smell and taste after COVID infection by 11%. This symptom was more commonly reported by women than men (72% vs. 61%) and more than 70% of patients having this symptom were aged 26 to 35 years ... (Source: *Nature Genetics*, Jan. 17, 2022)

With inputs from Dr Monica Vasudev

79th AIOC 2021: All India Ophthalmological Society

OOPS EVISCERATION SURGERY

Dr Tarjani Vivek Dave, Hyderabad

Dr Tarjani discussed about evisceration surgery during her presentation. She covered the topics of petals/scleral flaps, complications, migration, extrusion, volume augmentation options, cysts, eyelid malpositions and management paradigms.

She mentioned a study conducted by herself and her associates which concluded that placing larger implants in socket surgeries does not increase the risk of implant migration. She discussed another study by her team which concluded, "A 3D printing-assisted patient-specific implant placed in the basin of the inferior orbital fissure allows recenteration of the migrated implant over a follow-up of 21 months without complications."

Explaining the management paradigm, she advised to look for presence of surface loss, presence of volume loss, assess the prosthesis and assess the eyelids.

SPECTRUM OF VISUAL FUNCTION DEFICITS IN AMBLYOPIA AND IMPLICATIONS FOR TREATMENT

Dr Fatema F Ghasia, USA

During her presentation, Dr Fatema said that the visual system has a built-in paradox. We must fixate our gaze to inspect minute details of the world, yet if we fixate perfectly, the entire world would fade from view due to adaptation. During attempted fixation, when the highest visual acuity is achieved, our eyes are not completely motionless but instead show miniature involuntary fixational eye movements (FEMs).

She mentioned that amblyopia is a neurodevelopmental disorder secondary to abnormal visual experience during early childhood. Fixation instability has been reported in amblyopic patients.

She stated that fusion maldevelopment nystagmus (FMN) or latent nystagmus (LN) develops when there is disruption of binocularity in early infancy.

Dr Fatema discussed a study that aimed to characterize the fixation instability in amblyopic patients, examine the effects of FEM abnormalities on visual function deficits, and examine the link between FEM abnormalities and treatment outcomes. Their work has shown that timing of amblyopia development plays a role in the visual

function deficits in amblyopic patients. The presence of FMN syndrome (FMNS) was associated with greater impairment in binocular and some monocular visual function deficits of the fellow eye.

Discussing about FEMs and patching treatment, she mentioned that the predictors of response to amblyopia treatment include age and severity of amblyopia at the time of diagnosis. It is known that FMNS worsens during monocular viewing.

She concluded by stating that amblyopic patients, both with and without nystagmus, have increased fixational instability. Patients with FMN require longer duration of part time patching treatment. Despite modest improvement in visual acuity, stereopsis is poor in amblyopic patients with FMN that are treated with part time patching.

TELEMEDICINE MEASUREMENT OF PEDIATRIC VISUAL ACUITY

Dr Joseph M Miller, USA

During his presentation, Dr Joseph discussed about the telemedicine distance and near visual acuity tests. He discussed the results from recent studies one of which discussed the home acuity test (HAT) validation results and stated that HAT can be used to measure visual acuity.

He discussed about different apps and said that apps are fine for tech savvy who wish to direct their own healthcare, but are not a solution for physician-directed care. Apps are appropriate for screening, self-directed monitoring and exploration, but not for individuals with lower technical competency, those with lower access to hardware and for clinical decision making.

He discussed about the GoCheck Kids Digital Visual Acuity Test App and mentioned another recent study which showed that GoCheck Kids, as checked by a family member, provided modest correlation of visual acuity compared to the chart screen and a fair correlation of visual acuity compared to HOTV-Amblyopia Treatment Study Protocol, although most were within 1 line.

Discussing about another recent study titled "Validation of a Standardized Home Visual Acuity Test for Teleophthalmology", he mentioned that the study

concluded that “an ETDRS VA test self-administered at home following a standardized protocol was equivalent to a standard technician-administered VA test in clinic in the examined population”.

He also discussed about the Moorfields Eye Hospital Home Acuity Test. He concluded that it is possible to measure visual acuity from home for telemedicine care using validated methods, stating that various methods such as apps, electronic displays and printed charts are available.

ORBITAL MASS: PRESENTING SIGN OF UNDERLYING MALIGNANCY – CLINICAL AND PATHOLOGICAL FEATURES AND OUTCOMES

Dr Akshay G Nair, Mumbai

Presenting a study, Dr Akshay G Nair said that in India, systemic malignancies presenting as orbital masses are common, and have a poor prognosis with significantly shorter survival.

He conducted a study with his associates to describe the clinical features and outcomes of patients presenting with orbital metastases as the first sign of underlying malignancy. Between 2014 and 2019, they noted 30 cases of orbital metastases; 20 had a previous diagnosis of a malignancy while 10 had no prior history of cancer.

The most common presenting complaints were proptosis, double vision, vision reduction, swelling, pain and redness. Mean duration from initial orbital symptom to diagnosis was 2.25 months and mean number of metastatic sites at diagnosis was 3.3. Mean survival in patients with a known diagnosis of cancer (20/30) was 12.3 months, while that in patients with no known primary cancer (10/30) was 5.8 months.

While concluding, Dr Akshay said that later presentation is associated with more metastatic sites. Recent onset of painful proptosis/diplopia should raise suspicion. Treatment is palliative.

PEDIATRIC HERPETIC KERATITIS

Dr Kathryn Colby, USA

Herpes simplex is an important corneal disease in children, said Dr Kathryn Colby from the United States. Stromal keratitis is a common manifestation of herpetic keratitis, she said, and can be associated with vision loss

from corneal scarring or irregular astigmatism. Oral antivirals can be used with success in these children.

She, however, cautioned that management of amblyopia is essential in children with corneal disease.

BUILDING EYE CARE TEAM RESEARCH SKILLS FOR QUALITY AND SUSTAINABILITY

Dr Suzanne S Gilbert, USA

Dr Suzanne S Gilbert spoke on building eye care team research skills for quality and sustainability. She said that there is a global movement to build research skills among healthcare providers. Building skills and engaging in practical research is beneficial to both the staff and the institution.

OCTA IN THE RETINA AND CHOROID

Dr Kelvin Teo, Singapore

Dr Kelvin Teo gave an exhaustive presentation on optical coherence tomography angiography (OCTA) and stated that in his clinical practice, OCTA had cut down the need for fluorescein angiography for platelet-rich plasma decision. He said that it helps in the assessment of macular ischemia, in the prognosis for anti-VEGF (vascular endothelial growth factor) therapy, and identifying patients at higher risk of visual loss. Dr Kelvin added that OCTA has a role in screening for presence/absence of macular neovascularization (MNV), and is a biomarker for fellow eye progression to exudative MNV.

SHOULD AMPHOTERICIN BE ADDED TO CORNEAL PRESERVATION MEDIA?

Dr Bennie H Jeng, USA

Yes, amphotericin should be added to corneal preservation media, once we confirm safety in clinical trials, said Dr Bennie during his presentation.

He stated that post-EK fungal infections are a real problem. There are various methods to decrease this rate, which include disinfection at the time of procurement, and addition of antifungals into storage media. Addition of antifungals can offer protection and appears to be safe, and needs to be at a higher concentration than initially believed. However, more research is needed.



News and Views

Key Health-related Highlights of the Union Budget 2022-23

The budget does not have much for the health sector directly, though indirectly it has made provisions for drinking water and housing. Here are the key health-related highlights:

- A National Tele-Mental Health Programme to be launched with NIMHANS as the nodal center and 23 tele-mental health centers of excellence, for mental health counseling and care.
- An open platform for the National Digital Health Ecosystem consisting of digital registries of health providers and health facilities, unique health identity and universal access to health facilities.
- Integrated benefits to women and children through Mission Shakti, Mission Vatsalya, Saksham Anganwadi and Poshan 2.0.
- Two lakh anganwadis to be upgraded to Saksham Anganwadis with better facilities.
- Har Ghar, Nal Se Jal: Provide tap water connections to 3.8 crore households in 2022-23.
- Housing for All: 80 lakh houses in 2022-23 under Pradhan Mantri Awas Yojana.
- Government will introduce a battery swapping policy to encourage use of electric vehicles in the country.

For the individual taxpayer, there is no change in the income tax slabs. They remain the same.

(Source: Press Information Bureau, Ministry of Finance, Feb. 1, 2022)

ICMR Approves COVID-19 Test Kit Made in Odisha

A rapid antigen test (RAT) kit, developed by a company based in Bhubaneswar, in association with the Regional Medical Research Centre (RMRC), has got the approval of the Indian Council of Medical Research (ICMR) for use to detect COVID-19.

Sanghamitra Pati, Director of RMRC Bhubaneswar, said that the test kit (ImCOV-Ag), developed by IMGENEX India, has a high sensitivity and specificity and is capable of detecting all severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) variants. The RMRC did the internal validation, while a third party – an expert

group from Kerala – assessed the efficacy and accuracy. Following the RMRC validation and third party quality audit, the ICMR gave approval to the test kit.

IMGENEX India's Founder, Sujay Singh, said that the company can make up to 20 lakh kits per month by April... (ET Healthworld – TNN, January 29, 2022)

Nurses had Sleep Issues Due to Work Stress, Schedules During Pandemic: Study

According to a new study, published in the *Journal of Occupational & Environmental Medicine*, more than half of the nurses in the US experienced sleeping issues during the first 6 months of the pandemic, which resulted in anxiety and depression.

Investigators conducted a survey among 629 nurses and interviewed 34 nurses between June and August 2020. The nurses, working across 18 states, were asked about their experiences during the first 6 months of the pandemic in the US. The investigators noted high rates of depression (22%), anxiety (52%) and insomnia (55%) among the nurses. Difficulty sleeping was found to be a contributor to, as well as an outcome of, poor mental health. Sleeping for 5 hours or less prior to a shift increased the likelihood of depression, anxiety and insomnia. The nurses also stated that anxiety and thinking about stressful working conditions, such as staff shortage, being redeployed to a COVID unit, lack of personal protective equipment (PPE) and several patient deaths, was associated with difficulty falling asleep and waking up at night... (HT – ANI, January 29, 2022)

Brisker Walking Associated with Lower Heart Failure Risk

Walking at a faster pace is tied to a lower risk of developing heart failure (HF), according to a new observational study conducted in postmenopausal women.

Researchers tracked more than 25,000 women aged 50 to 70 years for a median of around 17 years. They evaluated a subset of postmenopausal women who were a part of the Women's Health Initiative (WHI) cohort between 1993 and 1998 (N = 25,183, mean [SD] age 62.6 [7.2] years) with no history of HF or cancer. In comparison with women who walked at a casual pace, those walking at an average or fast

pace were shown to have a 27% and 34% lower risk of HF, respectively. Even a short duration of fast walking, even less than 1 hour a week, was correlated with the same amount of reduction in the risk for HF, compared to double that amount of average or casual walking. The findings are published in the *Journal of the American Geriatric Society...* (Medscape, January 28, 2022)

Yoga Maneuver may Help Prevent Vasovagal Syncope

According to a new study, regular practice of a specific yoga maneuver may help reduce the vulnerability to reflex vasovagal syncope.

The maneuver, known as “tadasana”, is a movement-based practice which slowly improves the orthostatic imbalance, as it strengthens the protective neuromuscular reflexes. The tadasana exercise, done for just 15 minutes twice a day, was found to be tied to complete eradication of vasovagal syncope episodes for several patients.

The researchers presented their preliminary findings from a pilot study in a letter to *JACC: Clinical Electrophysiology*. In the study, 113 patients with recurrent vasovagal disorder were advised to practice standard physical maneuvers and maintain adequate hydration. Medications were given at the treating physician's judgment. Sixty-one patients were also trained to practice the tadasana maneuver. The patients were followed for an average of about 20 months. There was a reduction in the episodes of both near-syncope and syncope in both the groups; however, it was more marked in patients practicing the tadasana maneuver... (Medscape, January 28, 2022)

Potential Danger of NeoCov to Human Beings Needs Further Study: WHO

Chinese researchers have identified a new type of coronavirus in bats in South Africa. The research states that the virus has latent ability to mutate; however, the World Health Organization (WHO) has said that its potential needs to be studied further.

Scientists from the Wuhan University, China, have stated that NeoCov can penetrate human cells in the same manner as SARS-CoV-2. It is the closest relative to Middle East Respiratory Syndrome coronavirus (MERS-CoV). In a paper posted on preprint website bioRxiv, researchers stated that the virus is only one mutation away from becoming dangerous for humans. The paper has yet to be peer-reviewed.

The WHO; however, says that whether the newly discovered NeoCov coronavirus is a threat to humans needs to be evaluated further. The global health agency said that it works closely with the World Organisation for Animal Health (OIE), the Food and Agriculture Organization (FAO) and the UN Environment Program (UNEP) to assess and respond to the threat of emerging zoonotic viruses... (ET Healthworld – IANS, January 28, 2022)

Extremely Preterm Babies have Higher Risk of Eye Problems in Young Adulthood

Babies born extremely preterm appear to have worse visual function through young adulthood, suggests a cohort study conducted in the UK and Ireland.

The study included infants born at 22 to 25 weeks' gestation between March and December 1995 in the UK and Ireland. Age-matched individuals born full-term formed the control group. Many of the participants in the control group were classmates to the study patients, who had been enrolled at ages 6 and 11 years.

The mean best-corrected visual acuity (BCVA) among 128 young adults who were extremely premature at birth was found to be significantly worse in comparison with 65 individuals who were born full-term (monocular vision: 0.14 vs. -0.06 logMAR; binocular vision: 0.06 vs. -0.14 logMAR), reported researchers. Mean binocular contrast sensitivity was also worse among those born extremely preterm compared to controls (1.89 vs. 1.95). The findings are published in *JAMA Network Open...* (Medpage Today, January 28, 2022)

Booster Doses Enhance Protection Against Death from Omicron in 50-plus People: UKHSA

The UK Health Security Agency (UKHSA) has stated that nearly 6 months after the administration of second dose of any of the COVID-19 vaccines, protection against death from the Omicron variant was about 60% in those aged 50 years and above. The protection increased to about 95% 2 weeks after the administration of a booster shot.

The agency further stated that data point to high levels of protection against hospitalization from the booster dose. Effectiveness against hospitalization was found to be 90% for the Pfizer/BioNTech jab, which came down to 75%, 10 to 14 weeks following the booster dose. Effectiveness against hospitalization for Moderna jab was 90% to 95% up to 9 weeks following the booster shot.

Dr Mary Ramsay, Chief of Immunization at UKHSA, said that booster shots are offering high levels of

protection against hospitalization and death in the most vulnerable people in the society... (*The Guardian*, January 27, 2022)

Covishield, Covaxin Receive DCGI's Conditional Market Approval for Use in Adults

The Drugs Controller General of India (DCGI) has granted conditional market authorization to COVID-19 vaccines Covishield and Covaxin for use in adults. Union Health Minister, Mansukh Mandaviya, tweeted, "The @CDSCO_INDIA_INF has now upgraded the permission for Covaxin and Covishield from restricted use in emergency situations to normal new drug permission in the adult population with certain conditions."

Under the conditions, the company will supply the vaccines for programmatic settings, with registration on the CoWIN platform and submission of vaccine safety data on a 6-monthly basis. Adverse events after vaccination will be monitored. The approval has been granted under the New Drugs and Clinical Trials Rules, 2019.

The Subject Expert Committee (SEC) on COVID-19 of the Central Drugs Standard Control Organisation (CDSCO) had recommended granting regular market approval to the two vaccines for use in adults under certain conditions on January 19... (*The Hindu – ET Healthworld – PTI*, January 27, 2022)

Tool to Identify Who may Benefit from COVID Convalescent Plasma

A large meta-analysis on the use of convalescent plasma therapy early in the pandemic found no survival advantage for the typical patient hospitalized with COVID-19. However, researchers have now devised a tool to identify who may benefit.

The simple tool, named the Convalescent Plasma Benefit Index Calculator, enables doctors to input patient criteria to ascertain if the patient may benefit from convalescent plasma – age, oxygen need, blood type and history of either diabetes, heart disease or pulmonary disease. The meta-analysis and the study on the validated treatment benefit index (TBI) tool derived from it, were published in *JAMA Network Open*.

The Continuous Monitoring of Pooled International Trials of Convalescent Plasma for COVID-19 Hospitalized Patients (COMPILE) meta-analysis found no significant difference between patients receiving convalescent plasma therapy or control patients on the basis of 11-point ordinal WHO scale. Using data from COMPILE, researchers identified the groups with the

highest odds of a large benefit from convalescent plasma (B1 group; 28% of the population), a modest benefit (B2 group; 42%), and people who may not benefit or may even be at risk of potential harm (B3 group; 31%): B1: OR 0.69; B2: OR 0.82; B3: OR 1.58. People in group B1 had a higher likelihood of having A or AB blood type (56% for each), and a history of cardiovascular disease (52%) or pulmonary disease (52%). B1 and B2 groups each had double the rates of diabetes in comparison with the group that obtained little benefit (40% vs. 20%)... (*Medpage Today*, January 26, 2022)

Moderate-Vigorous Stepping may Reduce Diabetes Risk in Older Women

More steps taken in a day, especially at a higher intensity, may decrease the risk of type 2 diabetes in older women, suggests a prospective cohort study.

Researchers reported that the association between daily stepping and diabetes was not significantly modified by body mass index (BMI) or other common diabetes risk factors, thus indicating that the link is highly generalizable. They assessed data from 4,838 older, community-living women in the Objective Physical Activity and Cardiovascular Health Study. At the time of recruitment, women did not have physician-diagnosed diabetes and had a mean age of 78.9 years. The study participants took an average of 3,729 steps per day, divided roughly evenly between light and moderate-vigorous intensity. After a median of 5.7 years of follow-up, 8.1% of women developed diabetes. According to the least-adjusted model, there was a 14% reduction in diabetes risk per 2,000 steps (hazard ratio [HR], 0.86), while a second model that adjusted for more confounding variables, noted a 12% reduction in diabetes risk per 2,000 steps (HR, 0.88). The final model, which added BMI, revealed a 10% risk reduction; however, it was not statistically significant (HR, 0.90). The findings are published in *Diabetes Care*... (*Medscape*, January 27, 2022)

Omicron Subvariant BA.2 Seems More Contagious, but not More Severe: Denmark

The BA.2 subvariant of the Omicron variant of coronavirus, currently dominant in Denmark, seems to be more contagious than the BA.1 sublineage, stated Danish Health Minister Magnus Heunicke.

Heunicke said, "There is no evidence that the BA.2 variant causes more disease, but it must be more contagious." While BA.1 lineage is accountable for around 98% of all cases of COVID-19 worldwide, in Denmark BA.2 became the dominant strain in the second

week of January. Preliminary assessments indicate that BA.2 could be 1.5-fold more infectious than BA.1, said Denmark's top infectious disease authority, Statens Serum Institut (SSI). But, as per a preliminary analysis by the institute, there appears to be no difference in the risk of hospitalization for BA.2 in comparison with BA.1... (MSN News – Reuters, January 27, 2022)

Omicron-induced Immune Response Effectively Neutralizes Delta Variant: ICMR

A study conducted by the ICMR has shown that people infected with the Omicron variant have a robust immune response which could neutralize Omicron, as well as other variants of concern, including the Delta variant.

According to the study, the immune response induced by the Omicron variant could effectively neutralize the Delta variant, and make re-infection with Delta less likely, thus replacing Delta as the dominant strain. The study thus emphasized the need for Omicron-specific vaccine strategy. The study included 39 individuals. Of these, 25 had received both the doses of AstraZeneca COVID-19 vaccine, while 8 had received two doses of Pfizer vaccine. Six individuals were unvaccinated. Twenty-eight of these 39 individuals were foreign returnees and 11 people were their high-risk contacts. All had been infected with the Omicron variant. The study was released on the preprint server bioRxiv on January 26 and has yet to be peer-reviewed... (ET Healthworld – PTI, January 26, 2022)

Moderna Starts Next Phase of Omicron-specific Booster Vaccine Trial

Moderna announced that the first participant has been administered a jab as part of a Phase 2 clinical trial of a COVID-19 vaccine booster shot specific to the Omicron variant.

The company is moving the trial into its next phase as new research published in the *New England Journal of Medicine* noted that a booster shot of the vaccine was durable against the Omicron variant but did show signs of decreasing antibody protection.

CEO Stéphane Bancel stated that they are reassured by the persistence of antibodies against Omicron at 6 months following the 50 µg booster of the vaccine. Considering the long-term threat posed by Omicron's immune escape, the Omicron-specific variant vaccine booster candidate is being advanced and the next phase of the Phase 2 study is being started. The company intends to recruit around 600 individuals in the study, to be conducted at up to 24 sites in the US.

Meanwhile, Pfizer and BioNTech have also started their own Omicron-specific vaccine trials... (CNN, January 27, 2022)

Two-thirds with Omicron Say They have had COVID before: Study

According to a large, ongoing study, React, which is swab-testing thousands of volunteers in England, two-thirds of individuals recently infected with Omicron say that they have already had COVID-19 infection previously.

While more work is required to understand how many of these are true reinfections, the results reveal the groups that seem to be more likely to contract the infection again. These include healthcare workers and households with children or several members living under one roof.

Over 2 million people have been tested in the study and the latest findings, for the first 2 weeks of this year, come from nearly 1,00,000 polymerase chain reaction (PCR) tests. About 4,000 tested positive. Two out of every three, i.e., 65% of the infected volunteers stated that they had previously tested positive for COVID... (BBC, January 26, 2022)

Flavonoid-rich Foods Tied to Lower Mortality in Parkinson's Disease

According to a new study, berries, red wine and other flavonoid-rich foods are linked to a lower risk for death among patients with Parkinson's disease (PD).

The prospective analysis of over 1,200 participants with an eventual diagnosis of PD noted that people who consumed three or more servings of foods rich in flavonoids in a week had a 70% lower mortality risk compared to those who consumed one or lesser servings of these foods per month. The study included participants from the ongoing Nurses' Health Study (NHS) of female registered nurses, and male participants from the ongoing Health Professionals Follow-up Study (HPFS). Flavonoid intake was evaluated both prior to and after a PD diagnosis. After controlling for age, medical history, lifestyle behaviors and total energy and caffeine intake, higher total flavonoid intake prior to PD diagnosis was tied to a lower risk for all-cause mortality after diagnosis in men (HR 0.53), on comparing highest and lowest quartiles (P for trend, <0.001). In women, this association was not evident (HR 0.93). The pooled HR was 0.70 with significant heterogeneity (p = 0.01). The study is published online in *Neurology*... (Medscape, January 26, 2022)

Astik vs. Nastik

Traditionally, people believe that Nastik do not believe in God.

To differentiate between Astik and Nastik, we need to first understand the concept of Sanatan Dharma and Arya Samaj Dharma. People who believe in Sanatan Dharma consider God as separate from the self and worship him in the form of an idol. They believe in Dualism theory.

Arya Samaj followers do not do idol worship and believe in nondualism and treat God and self as one.

Arya Samajis, therefore, will not go to a temple where the idols of Gods are placed. Being an Arya Samaji does not mean that the person is Nastik.

The word Nastik means someone who does not believe in God at all, therefore, he or she also does not believe in self as God is nothing but self. In medical science, these are the people who have no insight and will usually be suffering from depression and loss of self-esteem.



COVID-19 Risk Factors in Multiple Sclerosis

Younger age, presence of comorbidities, and being female have been identified as the factors tied to an increased risk for COVID-19 in patients with multiple sclerosis (MS), in a new case-control study published in *Neurology: Neuroimmunology & Neuroinflammation*.

The study included 2,337 patients with MS and noted that the OR for risk for COVID-19 infection among patients with comorbidities was 1.69 compared to those without comorbidities. There were 779 patients with MS and COVID-19 and 1,558 MS patients without COVID-19 who were linked to the former group through propensity score matching.

In the three primary logistic regression models, comorbidities and female sex were found to have a significant association with an increased risk for COVID-19 infection. The OR for risk for COVID-19 infection was 1.25 for women vs. men. Age was tied to a lower risk for infection, and each additional year of age was linked with a reduction in risk, ranging from 10% to 11%. Additionally, natalizumab was associated with a significantly higher risk of COVID-19 infection, compared to other disease-modifying therapies (DMTs) (OR 2.38)... (*Medscape, February 3, 2022*)

Remdesivir Found to Reduce Need for Mechanical Ventilation in COVID Patients: Study

A new research, published in the *Canadian Medical Association Journal*, suggests that remdesivir, compared with the standard of care for COVID-19, decreased the need for mechanical ventilation in hospitalized patients.

This was a substudy of the global WHO Solidarity trial that evaluated the effects of various treatments for COVID-19. The Canadian Treatments for COVID-19 (CATCO) trial involved 52 Canadian hospitals and assessed the effect of remdesivir in hospitalized patients with COVID-19 from August 14, 2020, through April 1, 2021. A total of 1,282 patients were included in the trial and around half of them were randomized to receive treatment with remdesivir and the rest received standard care (control group). The trial noted that among patients not receiving mechanical ventilation at study initiation, the need for mechanical ventilation arose for 8% of patients receiving remdesivir compared to 15% of those who received standard care. Patients given remdesivir were also able to come off oxygen and ventilator support sooner than those given standard care... (*ET Healthworld – ANI, January 25, 2022*)

Sometimes Your Biggest Weakness can become Your Biggest Strength

Once, there was a 10-year-old boy, who wished to study Judo despite the fact that he had lost his left arm in a car accident. He started having lessons with an old Japanese Judo master. The boy was doing well. But he couldn't understand the reason as to why, even after 3 months of training, the master had taught him only one move. One day, the boy asked the Sensei if he should be learning more moves, to which the Sensei replied that this was the only move he'll ever need to know. The young lad could not understand, but believing in his teacher, he kept training.

After several months of practice, the Sensei took the boy to his first tournament. The boy easily won his first 2 matches. The third match turned out to be more difficult, but after some time, his opponent started losing patience and charged. The boy cleverly used his one move and won the match. Surprised by his success, the boy reached the finals. The opponent was bigger,

stronger and more experienced. The boy appeared to be overmatched. The referee was concerned that the boy might get hurt, and called a time-out. The Sensei intervened and requested to let the boy continue.

Soon after the match resumed, his opponent made a huge mistake and dropped his guard. The boy was quick to use his move to pin him. The boy won the match and the tournament. He was the champion.

On the way home, the boy and Sensei reviewed every move in all the matches. The boy curiously asked the Sensei how he won the tournament with just one move. The Sensei explained that he won because of two reasons. First, he had almost mastered one of the most difficult throws in all of judo. And second, the only known defense for that move is for the opponent to grip your left arm.

The boy's biggest weakness had now become his biggest strength.



Fatigue, Depression Common in Early Multiple Sclerosis

According to a new preprint study, published in medRxiv.org, there appears to be a robust link between subjective fatigue and depression in early relapsing-remitting multiple sclerosis (RRMS).

The study included participants from Future MS, a national cohort of patients with newly diagnosed RRMS in Scotland. The study participants were assessed based on an array of clinical measures and structural brain magnetic resonance imaging (MRI) data. The validated Fatigue Severity Scale was used to evaluate subjective fatigue.

Investigators included data from 322 participants at baseline, when 49.5% of the cohort had clinically significant fatigue. Bivariate correlations revealed that fatigue severity had a significant correlation with all included measures of physical disability, affective disturbance, cognitive performance and sleep quality. However, it did not correspond with structural brain imaging variables, such as normalized lesion and gray matter volumes. Fatigue had strong correlations with depression, followed by Expanded Disability Status Scale in the network analysis. Weak links were noted with walking speed, subjective sleep quality and anxiety. On separately accounting for measurement of tiredness in the evaluation of depression, certain important depressive symptoms, such as anhedonia, subjective concentration deficits, subjective alteration in speed of movement and appetite, were still associated with fatigue... (*Medscape, January 24, 2022*)

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Lighter Side of Medicine

HUMOR

BUT WHERE WERE YOU YESTERDAY?

Tom had this problem of getting up late in the morning and was always late for work. His boss was mad at him and threatened to fire him if he didn't do something about it. So, Tom went to his doctor who gave him a pill and told him to take it before he went to bed. Tom slept well, and in fact, beat the alarm in the morning. He had a leisurely breakfast and drove cheerfully to work. "Boss", he said, "The pill actually worked!" "That's all fine" said the boss, "But where were you yesterday?"

NEW TEETH

Our local minister had all of his remaining teeth pulled and new dentures made a few weeks ago.

The first Sunday, his sermon lasted 10 minutes. The second Sunday, he preached only 20 minutes. But, on the third Sunday, he preached for an hour and a half.

I asked him about this. He then told me "well, John, that first Sunday, my gums were so sore it hurt to talk. The second Sunday, my dentures were still hurting a lot. Now the third Sunday, I accidentally grabbed my wife's dentures AND I COULDN'T STOP TALKING!"

MY GRADES

A high-school student came home one night rather depressed.

"What's the matter, Son?" asked his mother.

"Aw, gee," said the boy, "It's my grades. They're all wet."

"What do you mean 'all wet?'"

"You know," he replied, "...below C-level."

BANK NAME

Mother decided that 10-year-old Cathy should get something 'practical' for her birthday. "Suppose we open a savings account for you?" mother suggested. Cathy was delighted. "It's

your account, darling," mother said as they arrived at the bank, "so you fill out the application."

Cathy was doing fine until she came to the space for 'Name of your former bank.' After a slight hesitation, she put down 'Piggy.'

Doc says, "Joe, I got some bad news for you. You've got 6 months to live."

Joe says, "Six months? Doc, I can't pay your bill in 6 months, I can't do it!"

Doc says, "OK, I give you a year..."

Patient: "Doctor, I get heartburn every time I eat birthday cake."

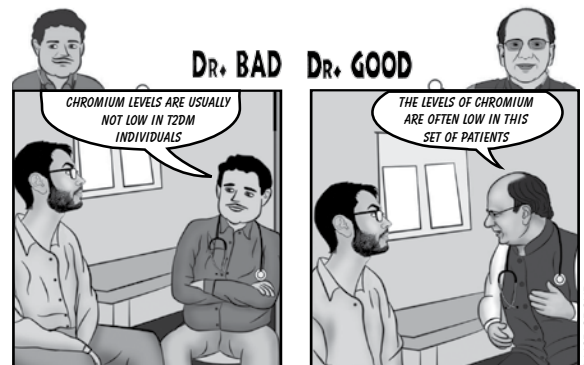
Doctor: "Next time, take off the candles."

When an employment application asks who is to be notified in case of emergency, I always write, "A very good doctor".

My therapist told me that a great way to let go of your anger is to write letters to people you hate and then burn them. I did that and I feel much better but I'm wondering... do I keep the letters?

Dr. Good and Dr. Bad

SITUATION: A 45-year-old type 2 diabetic male had lower plasma chromium levels.



LESSON: According to a case-control study, an inverse association has been demonstrated between plasma chromium levels, T2DM and prediabetes.

Nutrients. 2017;9(3):294.



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Paintal AS. Impulses in vagal afferent fibres from specific pulmonary deflation receptors. The response of those receptors to phenylguanide, potato S-hydroxytryptamine and their role in respiratory and cardiovascular reflexes. Q. J. Expt. Physiol. 1955;40:89-111.

Books

Stansfield AG. Lymph Node Biopsy Interpretation Churchill Livingstone, New York 1985.

Articles in Books

Strong MS. Recurrent respiratory papillomatosis. In: Scott Brown's Otolaryngology. Paediatric Otolaryngology Evans JNG (Ed.), Butterworths, London 1987;6:466-470.

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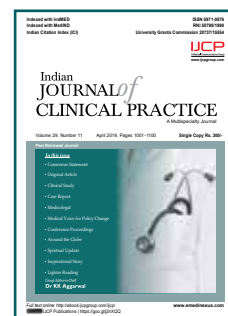
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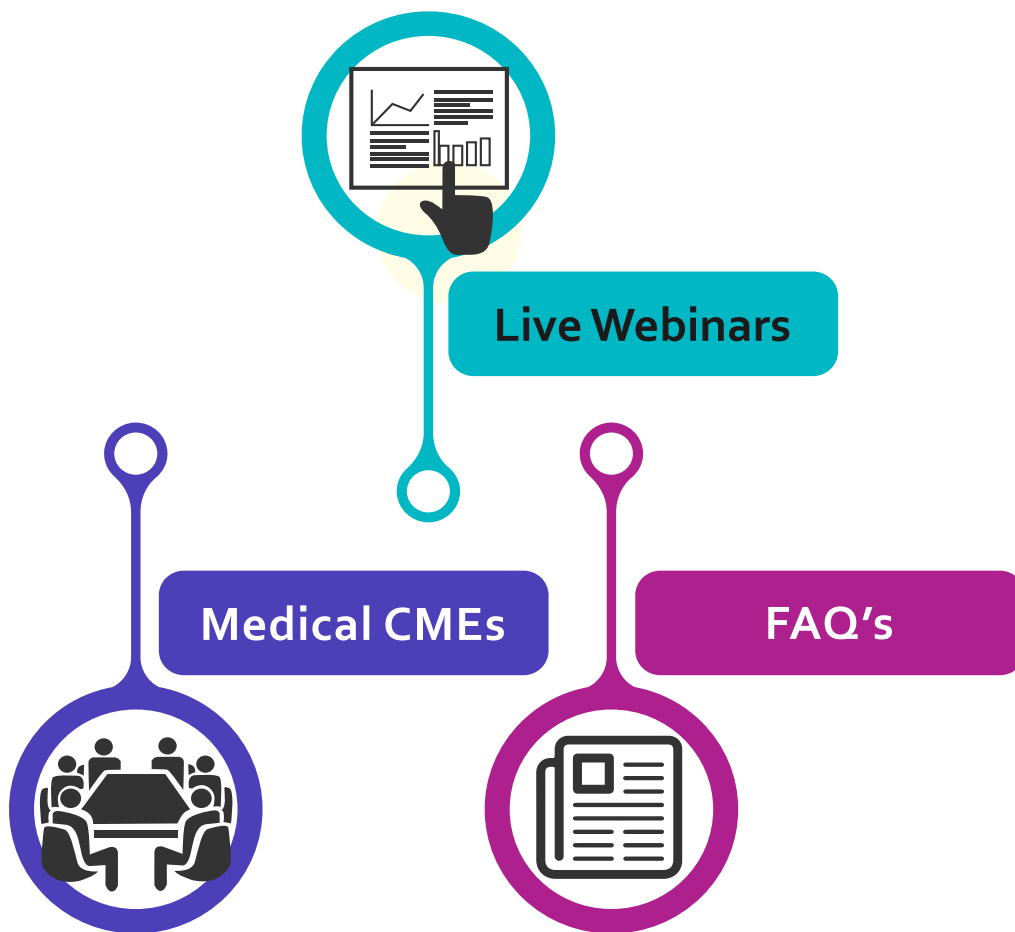
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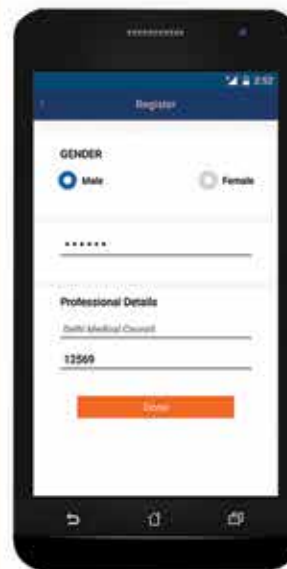
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