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Acinic Cell Carcinoma of the Parotid

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ABSTRACT

Acinic cell carcinoma, also known as acinar/acinous cell carcinoma is a rare salivary gland cancer (6-10%). Around 3-13% malignancies involve the parotid. It can also arise from other glands, namely submandibular, minor salivary gland. It may also present in the pancreas and lung, where it usually metastasizes. Acinic cell carcinoma usually occurs bilaterally and it presents in younger median age. It is a slow growing, painless tumor. It affects females more than males. Facial nerve is spared. If it metastatizes, it does so to the lung, bone, central nervous system, mediastinum, liver and brain.

Keywords: Acinic cell carcinoma, parotid gland

Acinic cell carcinoma is a rare salivary gland cancer. In the past, the malignant nature of this cancer was disputed and hence it was classified as an 'acinic cell tumor'/benign 'adenoma'; later due to high potential to recur and metastatize, it came to be known as a malignant carcinoma (WHO). Acinic cell carcinomas are typically slow growing, low-grade (highly differentiated) neoplasms. Recurrences (8-60%) and metastasis (7-29%) after 3-10 years are common. Patients with lung metastasis have poor prognosis.

CASE REPORT

A 25-year-old male presented to the ENT OPD with history of swelling of the left side of the cheek since 2-3 years, which gradually kept on increasing to attain the present size (Fig. 1 a and b). Patient had no evidence of facial nerve abnormality.

On Examination

Swelling was present on the left side of the cheek; soft to firm on palpation, mobile; no rise of local temperature; facial nerve was normal.

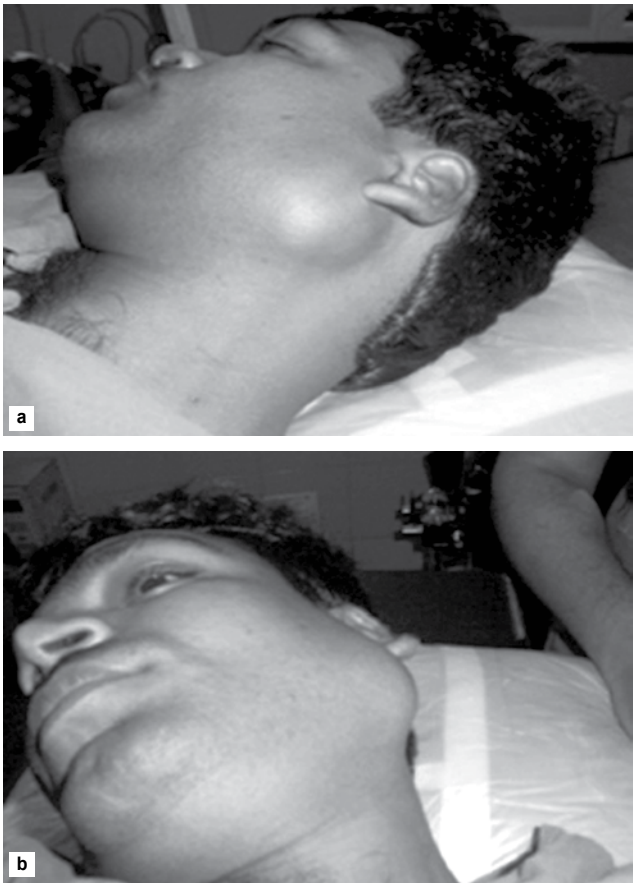

Figure 1 a and b. Swelling on the left side of the cheek.

Investigation

Blood Examination

Hemoglobin (Hb): 9.2 g/dL, WBC - TC: 5,100 cells/mm^3, DC: N-50%, L-40%, E-8%, M-2%, erythrocyte sedimentation rate (ESR)-31 mm/1st hour, BT-1 minute

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IJCP SUTRA 859: "Cover your mouth with a tissue when you cough, sneeze or laugh."

30 seconds, CT-3 minute 15 seconds, RBS-122 mg/dL, HIV-negative, HBS-negative.

Ultrasound

A well-defined, rounded, predominantly cystic lesion of size 4.3 × 2.7 cm was seen involving left parotid gland with internal solid component and internal septae (Fig. 2 a and b). It seemed to be soft tissue cystic neoplasm involving parotid gland, possibly benign.

FNAC

- **Gross:** 3 mL of slight reddish fluid aspirated.
- **Microscopy:** Blood-stained smears showed many scattered lymphocytes, few neutrophils and ductal epithelial cells, few acini and cystic macrophages on background of proteinaceous material.

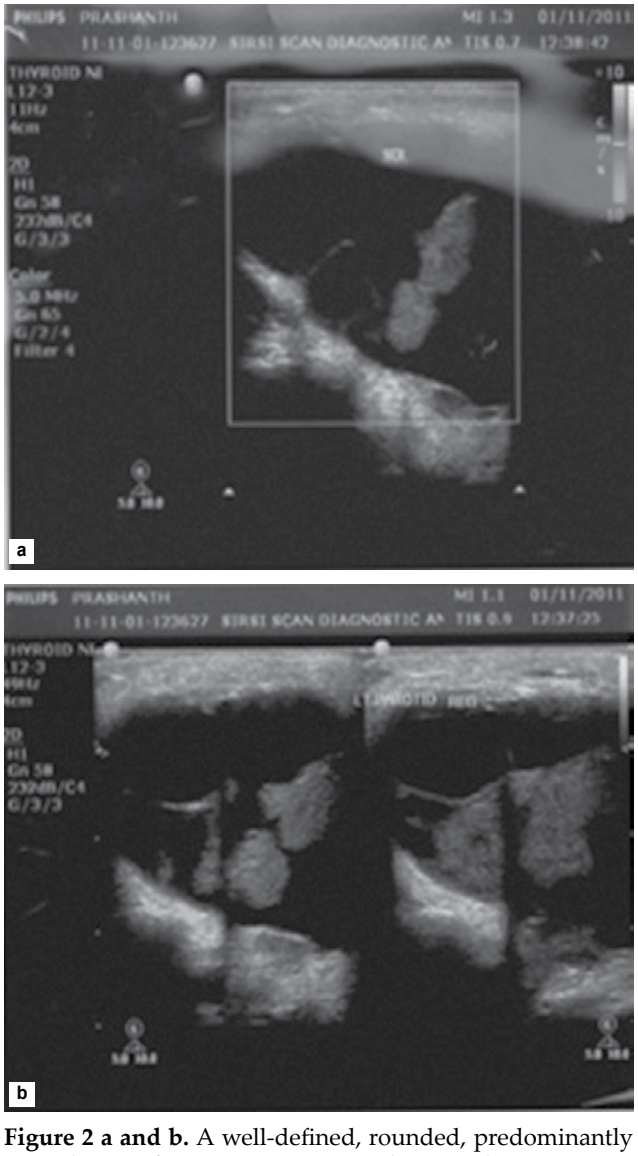

Figure 2 a and b. A well-defined, rounded, predominantly cystic lesion of size 4.3 × 2.7 cm on ultrasound.

Steps of Surgery

Patient was intubated. Part was cleaned and draped. A lazy S incision was taken on the affected side after giving local as infiltration. Layers were dissected, and a cystic swelling was identified in the matter of superficial part of the parotid. Swelling and the superficial parotid gland were excised and sent for histopathology. Facial nerve was identified and preserved. Branch of the greater auricular nerve was inadvertently cut. Suturing was done in layers (Fig. 3 a-c). Drain was kept at the operated site for the next 3 days. Patient tolerated ID

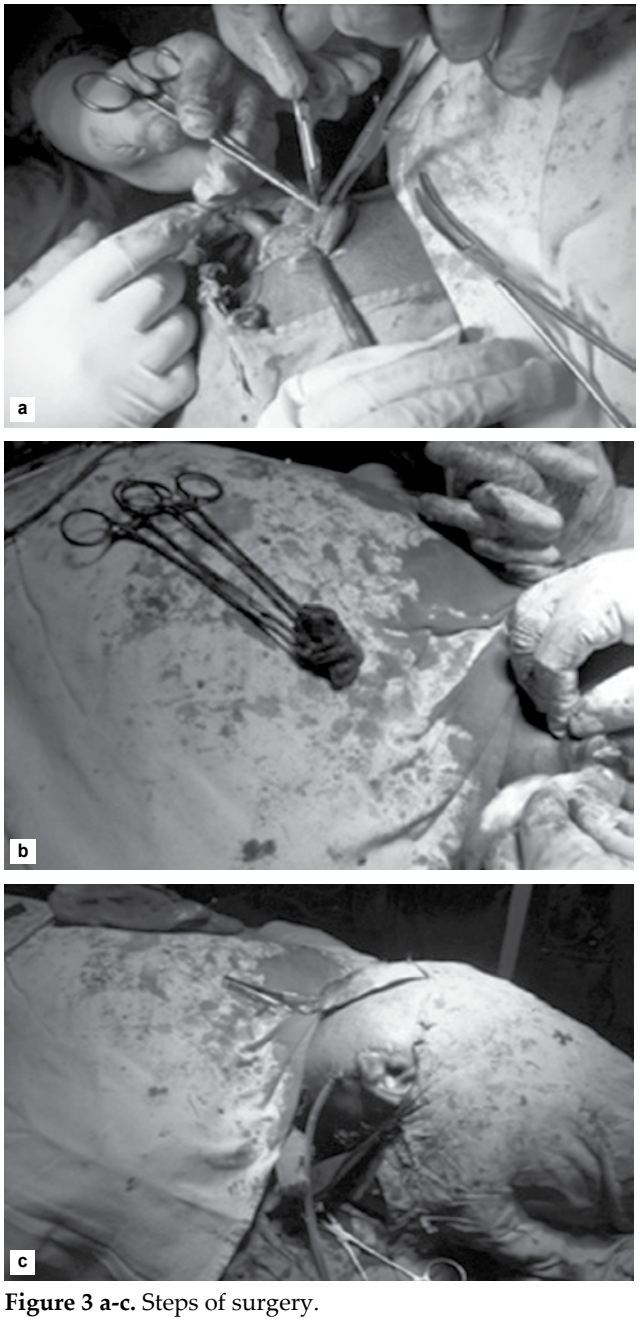

Figure 3 a-c. Steps of surgery.

gland tumor procedure well. Postoperatively, patient was put on injectable antibiotics, painkillers and antacids. Patient was discharged on 4th postoperative day.

Histopathological Report

- **Gross:** Partly opened cystic mass, measuring 4 × 3 × 0.4 cm with bosselated surface. The cut surface revealed focally irregular thickened and small cystic spaces containing blood clot. No evidence of solid areas.

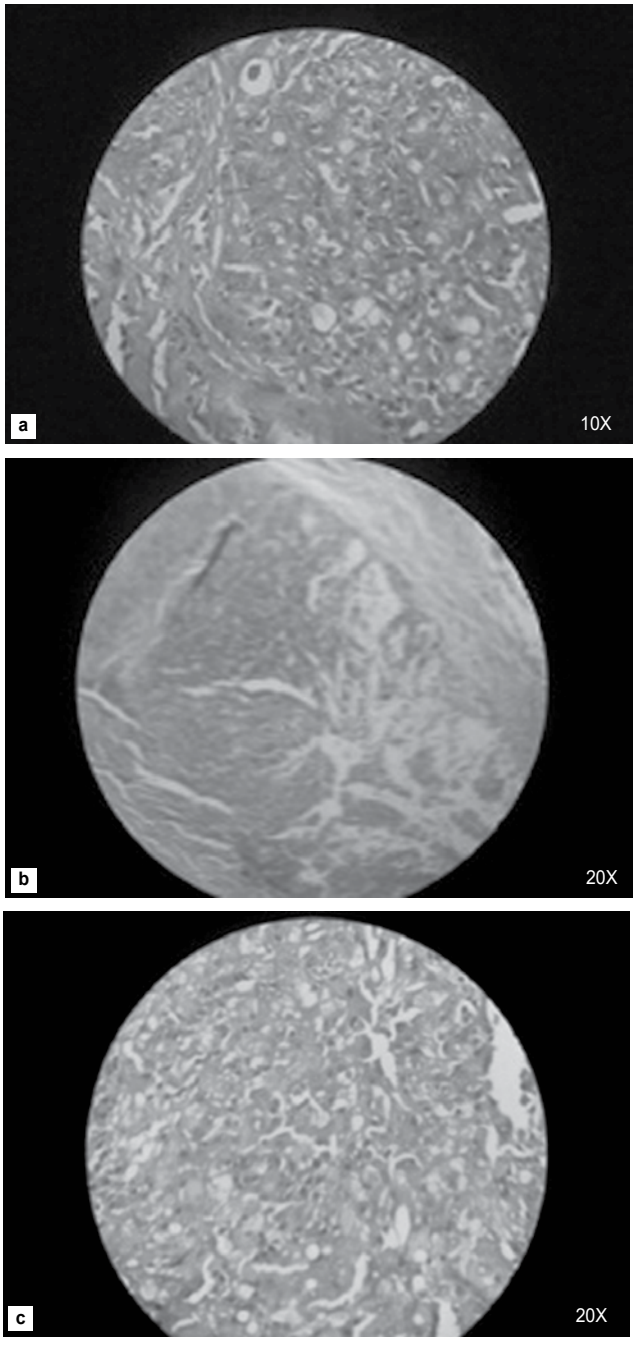

Figure 4 a-c. Histopathological finding of the tumor mass.

- **Microscopy:** Multiple sections showed parotid tissue with focally microcystic and papillary cystic glands lined by acinic cells displaying granular cytoplasm and focally clear, vacuolated cells, surrounding stroma containing lymphoid aggregates, hemorrhage and hemosiderin pigments. Few areas showed laminated concretions like psammoma bodies within the lumina (Fig. 4 a-c). There was 0-1 mitotic activity/hpf.

Impression

Features were suggestive of acinic cell cacinoma with marked cystic degeneration.

Follow-up

Patient has been following-up since 2 months post-discharge (Fig. 5 a and b). Patient was advised follow-up for first 3 months and then at 3-6 month intervals.

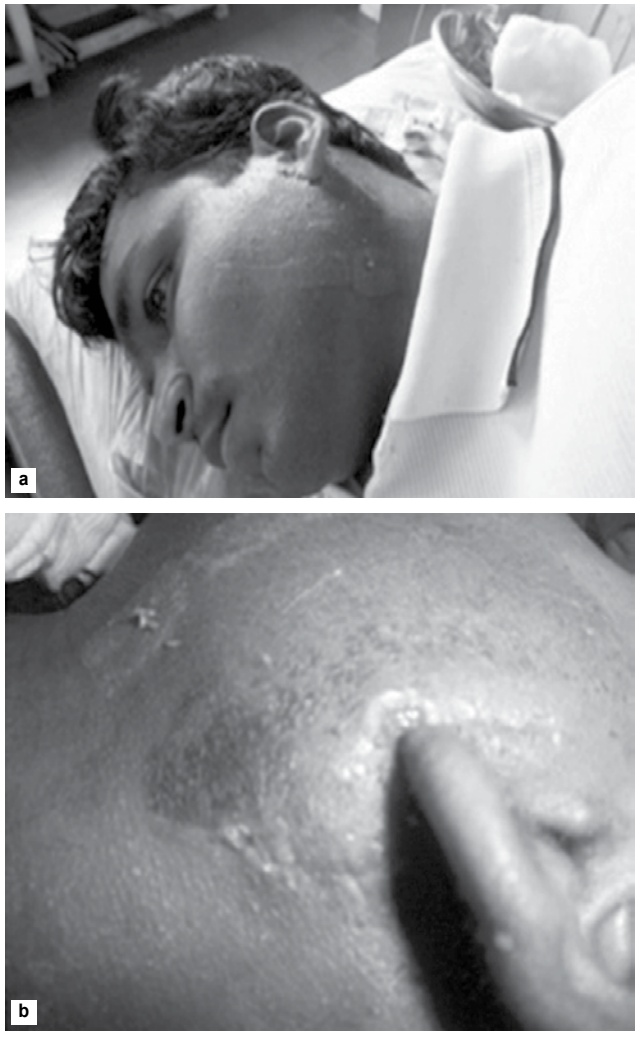

Figure 5 a and b. Patient at 2 months follow-up post-discharge.

DISCUSSION

Acinic cell carcinoma is a rare salivary gland cancer accounting for 6-10% of all salivary gland carcinomas and 3-13% of all malignant parotid gland tumors. It arises more frequently in the parotid gland; other sites may include submandibular gland, minor salivary gland. It is usually seen bilaterally. On rarer occasions, it also presents in the pancreas and the lung and if it does, it usually metastasizes. It is seen in the younger age group. It is a slow-growing tumor, is painless and spares the facial nerve.

The sites of its metastasis are lungs, bone, central nervous system and liver. In the past, it was considered a benign lesion; however, now it is considered by World Health Organization (WHO) as malignant due to its recurrence potential and metastases; recurrences and metastasis after 3-10 years are common. Lung metastasis has poorer prognosis.

Acinic cell carcinoma is the least aggressive of salivary gland cancers. High-grade variants of acinic cell carcinoma are papillocytic carcinoma or carcinomas with undifferentiated cells in medullary pattern. It belongs to the family of adenocarcinomas. Pancreatic form of acinic cell carcinoma is a rare subtype of exocrine pancreatic cancer, which includes ductal and acinar cell tumors, seen commonly in males.

Treatment comprises of surgery and/or postoperative radiation. Complete and total removal is a must to avoid recurrence; incomplete excision is associated with lower chance of survival. If complete and total tumor removal is not achieved then radiation using fast neutron beam is given. Conventional radiation is used to treat high-grade and residual disease after surgery. Chemotherapy has been considered ineffective and is used only for pain relief. Acinic cell carcinoma is considered chemo-resistant in literature. Its pancreatic version is treated using intra-arterial infusion chemotherapy.

SUGGESTED READING

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Back-scratch Test: 8-Foot Up-and-Go Purpose

- Assesses agility/dynamic balance, which is important in tasks that require quick maneuvering, such as getting off a bus in time or getting up to attend to something in the kitchen, to go to the bathroom or to answer the phone.
- Method: Number of seconds required to get up from a seated position, walk 8 feet (2.44 m), turn and return to seated position.
- Risk zone: More than 9 seconds.

The standard required for driving is the ability to read a car number plate at 20 m.