Case Report

Radiotherapy is not exclusively indicated in acinic cell carcinoma of the parotid gland; a rare neoplasm

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We present a case of 46 years lady who presents with slowly enlarging right parotid mass, which was surgically removed. The mass was confirmed to be acinic cell carcinoma by pathology. No adjuvant radiotherapy was given and there was no evidence recurrence after 2 years of post operative follow up. This case report highlights a rare parotid gland tumour, presenting the treatment options for this entity. (Rawal Med J 201:41:136-138).

Keywords: Radiotherapy, acinic cell carcinoma, rare malignant parotid neoplasm

INTRODUCTION

Salivary gland carcinoma is not common making up to less than 1 percent of the cancers in the United States.\(^1\) In parotid glands, 20-25% of the tumors are malignant compared to another salivary gland cancer.\(^2\) Acinic cell carcinoma (ACC) being fourth most common malignant parotid gland tumor after adenoid cystic carcinoma (AdCC), mucoepidermoid carcinoma (MEC) and carcinoma ex pleomorphic adenoma.\(^3\) Approximately 10% of salivary gland malignant tumors are acinic (or Acinar) cell carcinoma and most commonly occurs in the parotid gland.\(^4\) In comparison to other salivary gland malignancies, ACC is quite low.\(^5\) ACC happens at an earlier age than other salivary gland tumors and is seen in person between 5th and 6th decade of life.\(^6\) Most studies have noticed that women are affected more frequently than men.\(^6\) Although most head and neck carcinoma are strongly associated with smoking and alcohol drinking, however, this is not so for salivary gland.\(^7\)

The cause of acinic cell carcinoma is unknown as little or no research has been done in this area. ACC typically appears as a solitary, painless encapsulated, soft and slow-growing mass and there are approximately 40 years of ACC progression leading to a huge tumor.\(^5\) Cushing syndrome sometimes may be associated with ACC and coexists with pituitary adenoma and releases ACTH.\(^8\)

CASE PRESENTATION

This 46 years old Malay lady with no known medical illness presented with right parotid swelling of a year duration, insidious onset and progressive in nature. The patient had a firm to hard multilobulated swelling over right parotid gland, which was tender measuring 3cmx3cm. Facial nerve function was intact. Other head and neck examination was normal. A pre-operative CT scan suggested right intra parotid mass involving the superficial lobe measured 5cmx4cmx1.5cm. She underwent superficial parotidectomy with preservation of the facial nerve.

Fig. 1. Histopathology showing Acinic Cell Carcinoma.

The histopathological report revealed Acinic Cell Carcinoma with margin of the cells clear (Fig. 1).
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She is follow by the oncology specialist and no radiotherapy was done, in view of complete surgical excision. No recurrence on follow-up of two years.

DISCUSSION

Acinic cell carcinoma of the parotid gland initially was thought to be benign disease entity. Foote and Frazell\(^9\) first recognized it as a carcinoma in the early 1950s.\(^8\) The possible differential diagnosis includes neoplastic lesions, congenital, vascular malformations, acute and chronic cervical lymphadenopathies and cystic lesions.\(^9\) Ultrasonography, CT, and MRI are helpful in the preoperative planning of the surgical procedure. Tumor diameter greater than 3cm with presence of invasion of tissue are said to be unfavorable prognostic factors.\(^7\)

Surgery is often the primary treatment. However, it has not been established if removal of the entire gland is preferred or if it is better to attempt to remove only the cancerous tissue. A superficial parotidectomy or total parotidectomy and facial nerve sparing have been recommended.\(^10\)

It is said that adjuvant radiotherapy does not have an effect in a significant survival advantage for early stage or lower grade parotid ACC.\(^11\) Primary radiotherapy is limited to patients not fit for surgery or refusing surgery. However, it is not favored as a primary mode of treatment, as ACC is not radiosensitive and adjuvant radiotherapy did not confer significant survival advantage for early stage or low grade of parotic ACC.\(^10\)

Post-operative radiation therapy is usually recommended as adjuvant treatment, usually in cases of positive surgical margins or tumor recurrence. Tumor of the deep lobe in the facial nerve, diameter of the tumor greater than 4cm, extra glandular tissue spread and regional lymph node metastases are possible indications of radiotherapy.\(^12\)

Debate is still ongoing regarding the role for neck dissection, adjuvant radiotherapy and extent of resection needed, as there is no impact on survival rate.\(^10\) In this case, a superficial parotidectomy was performed. Due to no lymph node metastases in the neck, clear surgical margins and only involvement of the superficial lobe, she was not subjected for postoperative radiotherapy even though recommended by some authors in case of this tumor.\(^9\)

In summary, ACC is a low-grade rare malignant salivary neoplasm. The overall prognosis after the surgical resection depends on the extent of lesion and adequacy of initial resection. Careful long term follow up protocol is advised in view of its malignant potential. One should have a high index of clinical suspicion, prompt diagnosis and definitive surgical treatment.

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