Carcinoma ex pleomorphic adenoma is defined as a pleomorphic adenoma from which derived an epithelial malignancy. This tumor develops in primary or recurrent pleomorphic adenoma. Carcinoma ex pleomorphic adenoma is rare and comprises approximately 3.6% of all salivary tumors. The authors present a case of carcinoma ex pleomorphic adenoma, which is one of the 6 cases of carcinomas ex pleomorphic adenoma that have been operated in ENT Department Timișoara over the last 10 years, emphasizing diagnostic steps taken and therapeutic methods. We present the case of a 63 year old female from urban area who was admitted to hospital for a mass in the parotid region, which appeared, after seven months, gradually increasing in size. At MRI examination appeared an expansive polilobulated tumor mass with axial diameters of 4/5 cm, in the left parotid gland projection. We performed total left parotidectomy with facial nerve preservation and lateral neck dissection Level II – IV. Histopathological exam revealed mucoepidermoid carcinoma ex pleomorphic adenoma. The evolution of this tumor presents a high aggressiveness, the patient undergone postoperative radiotherapy, respectively.

Key Words: carcinoma ex pleomorphic adenoma, malignant parotid tumor, parotidectomy

INTRODUCTION

Pleomorphic adenoma, also know as benign mixed tumor because of the presence of both epithelial and mesenchymal tissue, are the most common tumors of the major salivary glands. (1,2). These tumors occurs most frequently in the parotid gland. Most pleomorphic adenomas of parotid gland develop in the superficial parotid lobe. Generally they presents as a well-deliniated, solitary, painless mass with slow growth. (3). Although
benign, as many as 25% undergo carcinomatous transformation, if left untreated. (2). Pleomorphic adenoma can sometimes recur, metastasizes or suffer malignant degeneration. (3). Carcinoma ex pleomorphic adenoma is usually a more poorly circumscribed mass than the benign pleomorphic adenoma. Carcinomas ex pleomorphic adenoma are prone to frequent recurrence and commonly metastasize. (3).

We made a study of all malignant tumors of parotid gland tumors treated in ENT Department Timișoara between 2002 to 2009. From 26 cases of malignant parotid tumors, only six represented carcinomas ex pleomorphic adenoma. We decided to make this case report because of the rarity of carcinoma ex pleomorphic adenoma in malignant tumoral pathology of parotid gland.

CASE PRESENTATION

S.M. patient, aged 63 years, from urban area, was admitted in the ENT Department Timișoara in August 2008 for a mass in the parotid region, which appeared, after seven months, gradually increasing in size. We have to mention that the patient did not present at admission facial palsy or ear sensory disturbances.

E.N.T. Clinical Exam:
Inspection: deformation of the left parotid gland region by a tumor with size of 4/5 cm.
Palpation: reveals a tumor size of 4/5 cm, well circumscribed with hard consistency, fixed to deep planes, sensitive to palpation. The superjacent skin aspect was normal. (Fig. 1)
Bucopharyngoscopy, anterior and posterior rhinoscopy, indirect laryngoscopy, nasal endoscopy, hypopharingo-laryngo-endoscopy with 70 degree endoscope revealed no pathological evidence.
General examination reveals no pathology.
Laboratory examination reveals a minor anemia but no other change in biological constants. Chest X-ray shows no active or disabling pleuropulmonary lesions.

MRI examination (Fig. 2a and 2b) is performed and reveals an expansive, polilobulated tumor mass with axial diameters of 4/5 cm, in the left parotid gland projection; the formation shows heterogeneous hypo-signal in T1, with fluid signal infracentimetric areas (necrosis) co-existing with hemorrhage lesions on T1 hyper-signal; in T2 nonhomogeneous hyper-signal, heterogeneous gadolinophilly of areas with parenchymatous signal and the absence of signal in areas of necrosis contrast intake.

With these clinical and laboratory data we establish presumptive diagnosis of left parotidian tumor, possibly malignant.

Regarding differential diagnosis, other diseases that could enter into discussion are: secondary lymph node from septic processes of the mouth, chronic parotitis, syphilis, tuberculosis and actinomicosis, Hodgkin’s disease, lymphosarcoma, metastatic tumors, primary or metastatic melanoma, angiomatosis tumor, neurofibroma.

Based on these data, with patient consent, surgical intervention is decided. Total parotidectomy was performed with preservation of facial nerve and left lateral neck dissection II-IV. (Fig. 4a and 4b)

Postoperative evolution, under antibiotic therapy and daily wound toilet, was good with healing per primam.

The tumor removed was sent to histopathological examination which revealed a microscopic structure of mucoepidermoid carcinoma ex pleomorphic adenoma associated with small fragments of salivary gland with lesion of pleomorphic adenoma; tumor is invasive in adjacent tissues of glandular lodge, for which postoperative radiotherapy was indicated. Immunohistochemical study revealed for Ki 67 a positive immune reaction. (Fig. 3).

The particularity of the case is represented by the rapid evolution of the tumor mass (seven months), since the most studies, highlights most often, a significantly longer evolution.

DISCUSSIONS

Pleomorphic adenoma is the most common benign tumor that affects salivary glands (1,2), occurring on 60%-70% of cases. Pleomorphic adenoma is characterized by proliferation of epithelial-mesenchymal tissue of the salivary gland.

Occasionally pleomorphic adenoma may undergo malignant transformation resulting carcinoma ex pleomorphic adenoma or respectively carcinosarcoma.

Very occasionally however, metastatic lesions are identified in patients with a history of pleomorphic adenoma which, on detailed pathological evaluation, are found to exhibit all the histological hallmarks of the
preceding benign lesion. This “enigmatic” entity has been termed the metastasizing pleomorphic adenoma. (4).

In recent years appeared datas about non-invasive (in situ or intracapsular) carcinoma ex pleomorphic adenoma. (5). They are carcinomas occurring in the pleomorphic adenoma without penetrating the capsule. Although encapsulation of tumor proved to be a indicator of benign character, Felix et al. (5) recently reported a case in which a fully encapsulated carcinoma ex pleomorphic adenoma presented regional lymph nodes.

Carcinoma ex pleomorphic adenoma usually occurs in men in six decade of life. (6).

Approximately 80% are located in major salivary glands and 20% in small salivary glands. (7). Most cases (81,7%) occur in the parotid gland, while a 18%, respectively 0,3% appear in submandibular and sublingual gland. (8). Most series show a female to male ratio of 1.2 to 3.1. (9). Carcinoma ex pleomorphic adenoma rarely occurs before age of 20 years. (10). Usually presents as a mass with a long evolution that shows a sudden increase in size. In 12-55% of cases this rapid increase in size may be accompanied by pain, facial nerve palsy and fixation to the surrounding soft tissue. A small percentage of patients may have tumors with rapid growth, without any symptoms. (10). Zbaren et al. in a group of 24 patients with carcinoma ex pleomorphic adenoma noted a percentage of 33% (8 cases), when tumor was in parotid deep lobe. (11).

Eneroth and Zetterberg’s studies support the hypothesis that the risk of carcinomatous transformation in a adenoma increases with the age of the tumor. (12).

Histological features of carcinoma ex pleomorphic adenoma are: the capsule invasion, hemorrhage, necrosis alternating with areas presenting classical features of pleomorphic adenoma. (13). Recent studies have shown that the most frequently encountered histological types in a carcinoma ex pleomorphic adenoma are: highly malignant adenocarcinoma or undifferentiated carcinoma, although many other types were found such as squamous cell carcinoma, mucoepidermoid carcinoma, adenoid cystic carcinoma, papillary carcinoma and terminal duct carcinomas. (14). Carcinoma ex pleomorphic adenoma treatment is surgical – parotidectomy with neck dissection.

Some authors (15,16) recommended surgery and postoperative radiotherapy, which is also our opinion in treatment of this tumors. Chen and colab. (15) have obtained a better local tumor control from 49% to 75% by combining surgery with postoperative radiotherapy in 63 patients diagnosed with carcinoma ex pleomorphic adenoma.

Features associated with an unfavorable prognosis include: high tumor grade, large size, soft tissue invasion, perineural invasion and lymph node metastases. According to LiVolsi and Perzin (17) the extent of tumor infiltration beyond the capsule is the most reliable prognostic marker. Carcinoma ex pleomorphic adenoma metastasizes exclusively as a carcinoma. Distant metastases occur more frequently than regional metastases. Distant metastases seem to show a particular affinity for lung and bone, especially the vertebral column. (18).

Zbaren et al. (11) observed in 24 cases of carcinoma ex pleomorphic adenoma studied, a survival rate of 76% at 5 years and a recurrence rate of 25% (six of 24 patients). Luers et al. (19) retrospectively analyzed 22 cases of carcinoma ex pleomorphic adenoma, found that about half of patients had evidence of a parotid mass of up to 1 year only while maximum of the others was 48 years. Both 5-year disease-specific and overall survival were 60%. Recurrence-free survival after 5 years was 85%.

CONCLUSIONS

The fact that pleomorphic adenomas are classified as benign tumors should not overshadow the wide range of biologic behaviors associated with these tumors. Because of the potential for malignant transformation, surgical treatment must be properly performed. Surgery followed by postoperative radiation should be considered the standard of care for patients with carcinoma ex pleomorphic adenoma.

REFERENCES

REFERENCES (CONTINUED)


