

British Division of International Academy of Pathology

SLIDE SEMINAR ON HEAD AND NECK PATHOLOGY

London 27 November 2010

Case No 3 presented by Silvana Di Palma

The Royal Surrey County Hospital and University of Surrey Guildford, UK

Male

52 yrs

Right parotid tumour

Clinical: Deep parotid tumour. ?Malignant radical parotidectomy with facial nerve resection and selective neck dissection level 1B-3.

Diagnosis

Acinic cell carcinoma with high grade transformation

Main diagnostic features

Superficial and deep parotid tissue infiltrated by a circumscribed not encapsulated tumour with multinodular growth. Tumour architecture is mostly solid, but microcystic pattern is present. Perineural and vascular invasion is seen. Psammoma bodies focally present. Tumour cells have large and pleomorphic nuclei, prominent nucleoli and mitoses up to 7/10 HPF.

Immunohistochemistry shows positive staining for epithelial markers, beta catenin and cyclin D1. Negative staining seen for androgen receptor, P53, ASMA and calponin.

Silver in Situ hybridisation shows 2-3 Her-2 gene copy number.

Differential diagnosis

Classical type acinic cell carcinoma

Metastatic carcinoma

References (6 in total)

1. Acinic cell carcinoma with high-grade transformation: a report of 9 cases with immunohistochemical study and analysis of TP53 and HER-2/neu genes. Skálová A, Sima R, Vanecek T, Muller S, Korabecna M, Nemcova J, Elmberger G, Leivo I, et al *Am J Surg Pathol*. 2009 Aug;33(8):1137-45.
2. Di Palma, Corletto V, Lavarino C, et al. Unilateral aneuploid dedifferentiated acinic cell carcinoma associated with bilateral low grade diploid acinic cell carcinoma of the parotid gland. *Virchows Arch*. 1999;434:361-365
3. Henley JD, Gears WA, Jackson C, et al, Dedifferentiated acinic cell carcinoma of the parotid gland: a distinctive rarely described entity. *Hum Pathol*. 1997;28:869-873
4. Chau Y, Hongyo T, Aozasa K, et al. Dedifferentiation of adenoid cystic carcinoma: report of a case implicating p53 gene mutation. *Hum Pathol* 2001;32:1403-1407
5. Simpson RHW, Reis-Filho JS, Pereira EM, et al.. Polymorphous low-grade adenocarcinoma of the salivary glands with transformation to high-grade carcinoma. *Histopathology*. 2002;41:250-259
6. Nagao T, Gaffey TA, Kay PA, et al. Dedifferentiation in low grade mucoepidermoid carcinoma of the parotid gland. *Hum Pathol* 2003;34:1068-1072

SLIDE SEMINAR ON HEAD AND NECK PATHOLOGY

London 27 November 2010

Case No 4 presented by Silvana Di Palma

The Royal Surrey County Hospital and University of Surrey Guildford, UK

Male

59 yrs

Right parotid tumour

Clinical: ?Malignant

Diagnosis

Invasive carcinoma ex Pleomorphic Adenoma (CXPA)

Main diagnostic features

Right parotid includes a poorly circumscribed tumour, 40mm in diameter. Tumour cells are highly pleomorphic, have eosinophilic cytoplasm and frequent mitoses. Perineural and vascular invasion is identified. The architecture of the carcinoma in some areas resembles invasive ductal carcinoma of the breast. In other areas is that of a poorly differentiated carcinoma without specific features. In addition there is an underlying pleomorphic adenoma showing hyalinised fibrosis, calcifications, necrosis and metaplastic bone tissue. The epithelial changes span from benign to ductal carcinoma in situ through varying degree of cytological atypia. Seven neck nodes contained metastatic carcinoma. The largest node is 45mm.

Differential diagnosis

Metastatic carcinoma

Carcinoma NOS

Salivary duct carcinoma

References (6 in total)

1. Gnepp DR, Brandwein-Gensler M, El Naggar A, Nagao T. Carcinoma ex pleomorphic adenoma. In *World Health Organization: Pathology and Genetics of Head and Neck Tumours*, Barnes, L, Eveson, JW, Reichart, P, Sidransky, D. Lyon: IARC Press.
2. Lewis JE, Olsen KD, Sebo TJ (2001) Carcinoma ex pleomorphic adenoma: pathologic analysis of 73 cases. *Hum Pathol* 32:596-604
3. Tortoledo ME, Luna MA, Batsakis JG (1984) Carcinomas ex pleomorphic adenoma and malignant mixed tumors. *Arch Otolaryngol* 110:172-176
4. Di Palma S, Skalova A, Vanieek T et al. (2005) Non-invasive (intracapsular) carcinoma ex pleomorphic adenoma: recognition of focal carcinoma by HER-2/neu and MIB1 immunohistochemistry. *Histopathology* 46:144-152
5. RHW Simpson, S Desai and S. Di Palma. Salivary duct carcinoma *in situ* of the parotid gland. *Histopathology* 2008 (**find full ref**)
6. S Di Palma, A Skalova, M Ungari, A Sandison, Hans Peterse, C Marchio, JS Reis-Filho, Pure salivary duct carcinomas can be classified into luminal, HER2 and basal-like phenotypes. USCAP meeting 2008 (**find full ref**)