CASE REPORT

Sebaceous lymphadenoma of salivary gland: a case report and a review of the literature

Linfoadenoma sebaceo della ghiandola salivare: descrizione di un caso e revisione della letteratura

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SUMMARY

The unusual case is described of a benign parotid gland neoplasm with intermingled sebaceous and lymphoid tissue, synchronous to breast cancer. In the past, the patient had undergone a simple surgical procedure for a cystic parotid gland lesion in that same gland. Secondary neoplasms have only occasionally been reported, since there are few cases for corroborating the strong correlation between salivary neoplasms and other carcinomas as in Muir-Torre syndrome; the previous cystic lesion showed the origin of the neoplasm from a sebaceous inclusion in the lymph node as a postulate of Warthin tumour.

KEY WORDS: Parotid gland • Sebaceous lymphadenoma • Diagnosis • Immunohistochemistry

RIASSUNTO

Descriviamo un caso di neoplasia benigna della parotide costituita da ghiandole sebacee frammiste a tessuto linfoide, sincrono a carcinoma della mammella, in paziente già sottoposta a chirurgia per asportazione di lesione cistica della stessa. Le neoplasie concomitanti sono rare, poiché ci sono solo pochi casi per sostenere una forte correlazione tra la neoplasia salivare ed altri carcinomi come nella sindrome di Muir-Torre; la precedente cisti dimostra che la neoplasia origina da inclusioni sebacee nei linfonodi come per il tumore di Warthin.

PAROLE CHIAVE: *Ghiandola parotide • Linfoadenoma sebaceo • Diagnosi • Immunoistochimica*

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Introduction

Although sebaceous glands are commonly found in the salivary glands, primary sebaceous tumours of the salivary glands are very rare. The few reported cases of this benign neoplasm account for less than 0.2% of all salivary gland neoplasms. Herein, we describe the case of a sebaceous lymphadenoma (SL) of the parotid gland showing an admixture of sebaceous glands and lymphoid cells. The tumour presented an indolent clinical course with slowly progressive parotid enlargement in the last 3 years, and was diagnosed synchronously with an invasive duct carcinoma of the breast.
The morphological features suggested the origin of the tumour from sebaceous gland inclusions within a lymph node.

Clinical history

A 67-year-old female presented with a progressive enlargement of the right parotid gland, causing discomfort. A cystic neoplasm of the same salivary gland had been removed 40 years earlier, without any histological examination.
In October 2001, the patient was diagnosed with breast carcinoma and underwent breast conserving surgery with sentinel node biopsy, followed by adjuvant chemotherapy and local radiotherapy. During hospitalisation, the patient complained of a 4 cm painless nodule in the right parotid gland with a smooth surface, mobile on deep and superficial tissues, without facial nerve palsy or lymphadenomegaly. Subsequently, fine needle aspiration cytology (FNAC) was performed to rule out metastatic disease, that resulted in granulomatous inflammation.
The patient received prolonged anti-inflammatory treatment that did not significantly improve the parotid gland enlargement and, indeed, the lesion continued to grow slowly over the next 3 years. Finally, to relieve the patient's discomfort, simple parotidectomy with facial nerve preservation was performed.

Material and methods

Grossly, a 4 cm oval and soft neoplasm was identified within the parotid; showing smooth edges but no evidence of a capsule. The cut surface was homogeneous, yellowish and without cystic spaces.
Immunohistochemical studies were performed on the neo-

Table I. Sebaceous lymphadenoma reported in the literature.

Author (yr)	No. cases	Gross features	Associated disease	Sex	Age yrs	Site	Growing	Suspected origin	Course	Size (cm)
Present case	1	Solid	IDC of breast	F	66	P	Slowly 3 yrs	WT	NED 6 mos later	4
Musthyala NB (2004)	1	–	–	M	74	P	–	–	–	–
McGavran MH (1960)	1	–	–	–	–	P	–	–	–	–
Crawford WV (1973)	1	–	–	–	–	P	–	–	–	–
Wasan SM (1971)	1	–	–	–	–	P	–	–	–	–
Pai RR (1994)	1	Cystic	–	–	–	P	–	WT	–	–
Kurokawa H (1999)	1	–	–	–	–	M	–	–	–	–
Verghese S (1975)	1	–	–	–	–	P	–	–	–	–
Kunze P (1979)	1	–	–	–	–	P	–	–	–	–
Wuketich S (1966)	1	–	–	–	–	P	–	–	–	–
Baratz M (1976)	1	–	–	–	–	P	–	–	–	–
Gnepp DR (1980, 1984)	1	Microcystic	–	F	89	P	1 yr	–	–	3.5
	1	Cystic	–	M	77	P	Several yrs	–	–	–
	1	Microcystic	–	M	81	P	Incidental finding	WT	NED 71/2 yrs later	–
	1	Solid	–	F	74	P	4 mos	–	NED	4.5
	1	Solid	–	M	74	P	15 yrs	–	NED 7 yrs later	2.3
	1	Microcystic	–	M	72	P	4 to 6 mos	–	–	2
	1	–	–	–	–	–	–	–	–	–
	1	Microcystic	–	F	65	P	1 yr	–	NED 6 mos later	3
	1	Cystic	–	M	57	P	6 yrs	–	NED 1 1/2 yrs later	6
Merwin WH (1985)	1	Cystic	–	M	38	P	–	WT	–	–
Mayorga M (1999)	1	Solid	ACC in same gland	F	78	P	–	–	–	–
Maruyama S (2002)	1	Solid	–	F	73	UL	Slowly 1 yr	–	–	1
Dreyer T (1993)	1	–	–	F	67	P	Slowly	WT	–	–
Deysine M (1969)	1	–	Bilateral parotid neoplasm unspecified		–	P	–	–	–	–
Fleming DA (1973)	1	–	–	–	–	P	–	–	–	–
Kuhn U (2003)	1	–	–	–	–	P	–	–	–	–
Shukla M (2003)	1	Solid	SCC in same gland	F	68	P	Slowly 8 yrs	–	–	–
Assor D (1970)	1	–	–	–	–	P	–	–	–	–
Boyle JL (2004)	1	Solid	–	M	75	P	Slowly 6 mos	–	–	4

F: female; M: male; P: parotid salivary gland; NED: no evidence of disease; SCC: squamous cell carcinoma; IDC: infiltrating duct carcinoma; WT: Warthin tumour; ACC: acinar cell carcinoma; Mx: maxilla; UL: upper lip; –: data not available.

plasm with CD68 (clone KP1, dilution 1:150, Dako, p63 (polyconal, dilution 1:400, Dako), AR (Androgen Receptors clone F39.4.1, dilution 1:60, Biogenex), c-kit/CD117 (polyclonal, dilution 1:100, Dako), Calponin (CALP, dilution 1:400, Dako) and her-2/neu (polyclonal, dilution 1:3200, Dako) proteins. After blocking in 5% hydrogen peroxide for 12 minutes, de-waxed sections were reacted with a panel of commercially available primary antibodies for 30 min at room temperature in an automatic immunostainer (DakoAutostainer, Dako, Glostrup, Denmark), and then incubated with a high sensitivity detection kit (Dako EnVision Plus-HRP, Dako), according to the manufacturer's instructions, p63, AR and Calponin was made a pre-treatment with EDTA at pH 8. Peroxidase activity was developed with 3-3'-diaminobenzidine-copper sulphate (Sigma Chemical Co, St Louis, MO, USA) to obtain a brown-black end product. The specificity of all staining was checked using appropriate internal positive and negative controls run simultaneously.

Results

Histologically, the tumour was characterized by intermingling of epithelial and lymphoid cells (Fig. 1). The epithelial component was arranged in nests and glandular structures (occasionally dilated and containing sebaceous material) with basally located small dark cells and luminal cells with large central nuclei, and microvacuolated sebaceous-like cytoplasm (Fig. 2). Mitotic figures, vascular invasion and tumour cell necrosis were not observed. The overwhelming population was comprised of lymphocytes with germinal centres and marginal subcapsular sinuses and epithelioid and foamy histiocytes associated with extracellular sebum. Immunohistochemical results are strong stains for CD68 in the giants cells and histiocytes, p63 in the basal layer of sebaceous cells, and for her-2/neu in luminal sebaceous cells. All sebaceous cell showed androgen receptor positivity. Negative stains were observed for Calponin and for membrane thyrosinase-kinase receptor (c-kit/CD117).
The final histological diagnosis was SL.

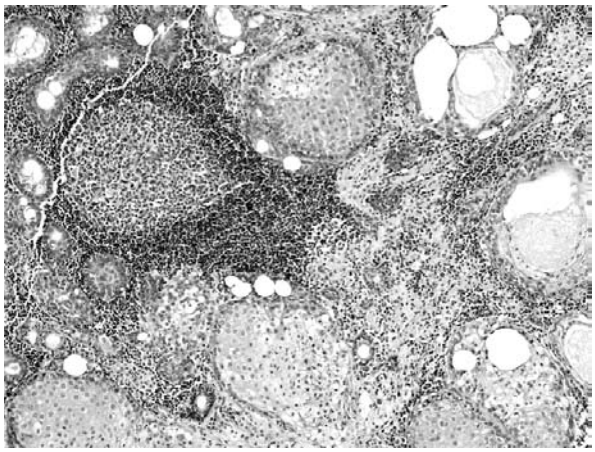

Fig. 1. Overview of SL with follicular germinal centre in upper part of field and with sebaceous proliferation, sometimes containing sebaceous material (H&E x450).

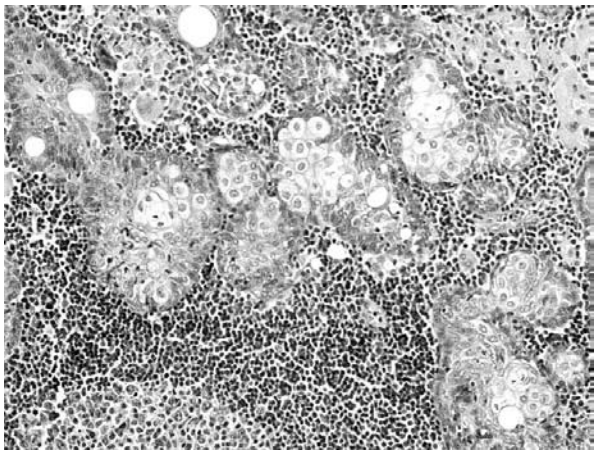

Fig. 2. Detail showing sebaceous cells without malignant features (H&E x1800).

Discussion

Hamperl was the first to report the occurrence of sebaceous glands in both major and minor salivary glands, associated or not with other benign or malignant neoplasms [1].
Meza-Chàvez also reported sebaceous differentiation in the normal parotid in 24.8% of 133 patients with parotid tumours [2].
Sebaceous glands may be encountered already in childhood [3], though they reportedly occur more often after puberty, reaching a prevalence of almost 10% to 20% in young and middle-aged adults [4].
It is likely that after puberty the same hormonal factors induce the development of sebaceous glands both in the skin and salivary glands. Despite the common occurrence of sebaceous differentiation in salivary glands, SLs are very rarely encountered in salivary glands and particularly in the parotid gland. Indeed, only 29 such cases, representing less than 0.2% of all parotid tumours, have been reported, both sexes being equally affected (Table I) [5-30].
Almost 75% of these tumours are diagnosed in the 6-8th decades and approximately 90% of these arise in the parotid gland or around it; only two reported cases arose within the minor salivary glands [17 20]. Symptoms lasted from less than one month to 15 years, and no recurrence has been reported following parotidectomy.
SLs are well circumscribed or encapsulated neoplasms, that do not infiltrate the surrounding normal tissues. Size ranges from 1 to 6 cm, and they appear as white-yellowish nodules histologically composed of well differentiated sebaceous glands of variable size intermingled with lymphocytes and normal salivary ducts.
SL may be associated with Warthin tumours (4 out of 28 cases), giving rise to the hypothesis that SL may represent sebaceous metaplasia of the epithelial component of the cyst [9 12 23 25]. This is also consistent with the peculiar distribution of sebaceous remnants in peri-glandular lymph nodes, occasionally observed in surgical specimens of young and older patients [3 4]. According to Gnepp and Brannon [11], however, the presence of follicular lymphoid aggregates with germinal centres and of subcapsular marginal sinuses in the majority (89%) of cases makes it more likely that SL, like Warthin tumours [4], arise in ectopic salivary gland tissue within lymph nodes.
The present case is peculiar because a cystic lesion in the same gland had been removed several years earlier without any histological assessment. This leaves the possibility

open that the original lesion was a Warthin tumour, the current SL being a late recurrence of the previous tumour with sebaceous metaplasia. Alternative hypotheses related to the origin of SL include derivation from brachial cleft remnants or from sebaceous gland lymphoid inclusions in periparotideal lymph nodes [1 2 18].

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