

## *Case Report*

### **Benign Pleomorphic Adenoma Arising in a Parotid Lymph Node**

Y. Takeda and A. Suzuki

Department of Oral Pathology, School of Dentistry, Iwate Medical College,  
Uchimaru 19-1, Morioka, Iwate, 020 Japan

**Summary.** A rare case of a benign pleomorphic adenoma is reported, arising in a parotid lymph node in a 52-year-old woman. Serial sections showed that the tumor tissue was surrounded by a mantle of lymphoid tissue which had the essential characteristics of a lymph node. The pathogenesis of the lesion is discussed and the literature is briefly reviewed.

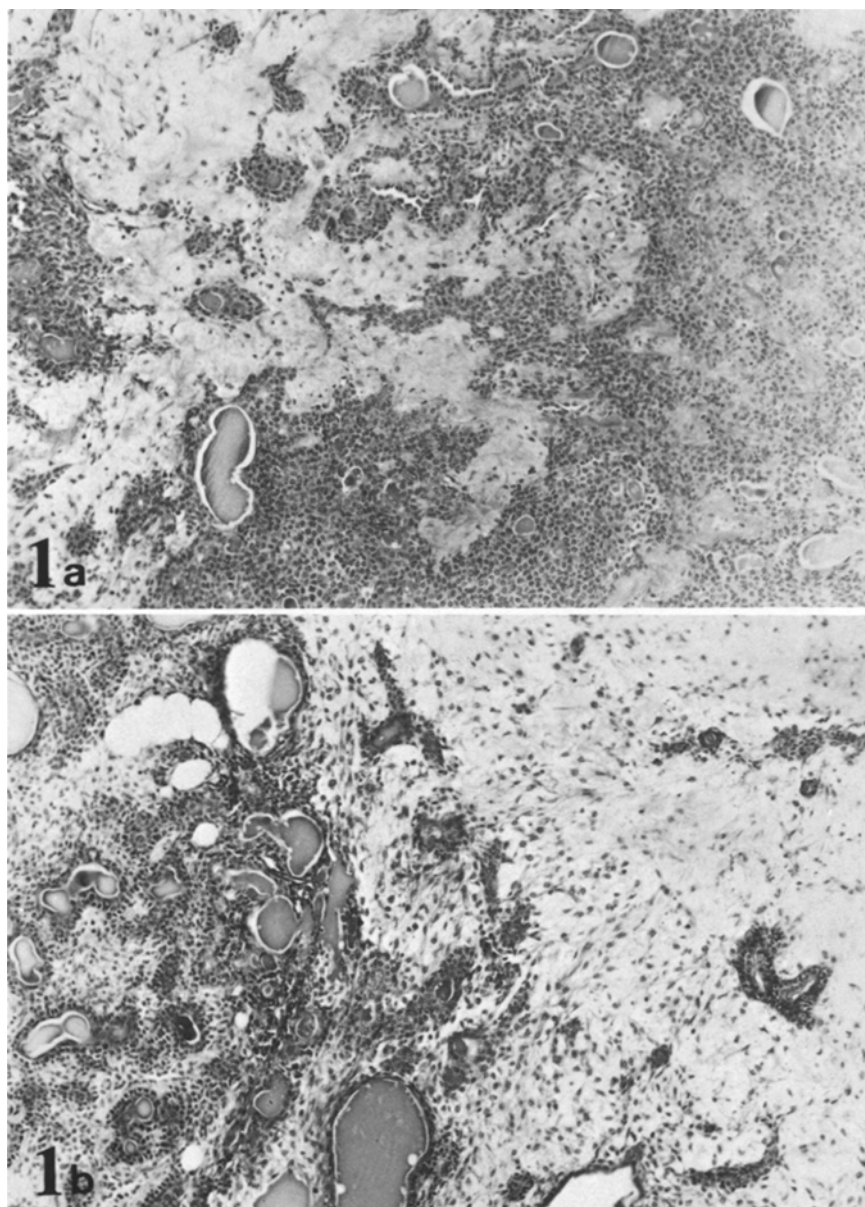
**Key words:** Pleomorphic adenoma – Lymph node – Parotid gland

Pleomorphic adenoma is the most common tumor of the salivary glands and, like salivary gland tumors in general, occurs more frequently in the parotid gland. It is generally thought that pleomorphic adenoma arises from duct epithelium of the salivary glands with gradual transformation into the various structures characteristic of this lesion. A number of lymph nodes of varying sizes and shapes are seen within and in close association with the parotid gland, and the parotid tissue is seen in these lymph nodes (Thompson and Bryant 1950; Seifert und Geiler 1956; etc.). Aberrant salivary gland epithelia in a lymph node may give rise to some neoplastic changes such as Warthin's tumor (papillary cystadenoma lymphomatosum, WHO) and benign lymphoepithelial lesion. However, benign pleomorphic adenoma arising in lymph node is extremely rare, and only two such cases have been found in the literature (Bernier and Bhaskar 1958). Because of its scarcity, a case of benign pleomorphic adenoma arising in parotid lymph node is reported in this paper.

#### **Case**

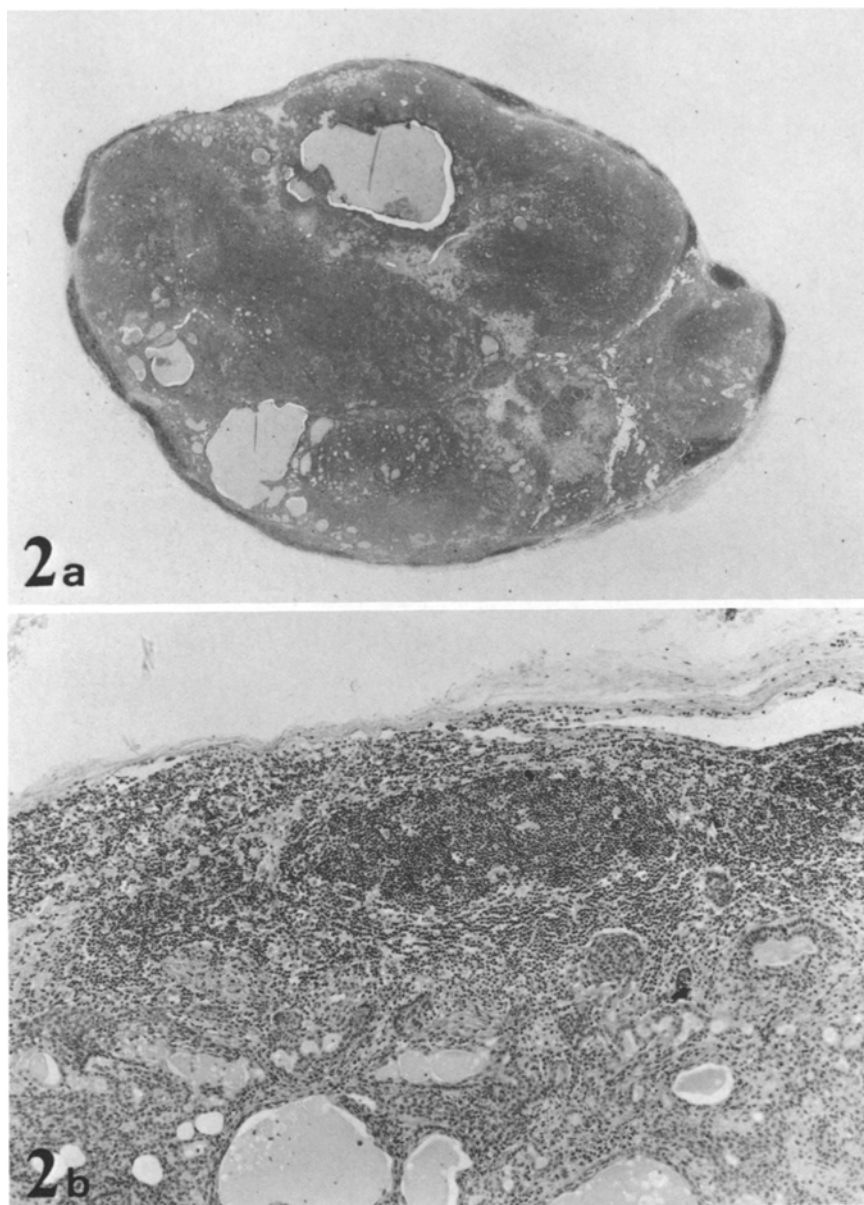
The patient was a 52-year-old Japanese woman. She first noted a soy-bean-sized mobile nodular swelling in her right parotid region about 5 years ago, but was not concerned. She consulted a dentist because the swelling had gradually increased in size for the past year, and was

*Offprint requests to:* Y. Takeda at the above address



**Fig. 1a, b.** Pleomorphic adenoma showing variously arranged epithelial cells, varying amount of mucoid and fibrous tissues and formation of numerous small cysts. (a) and (b)  $\times 130$

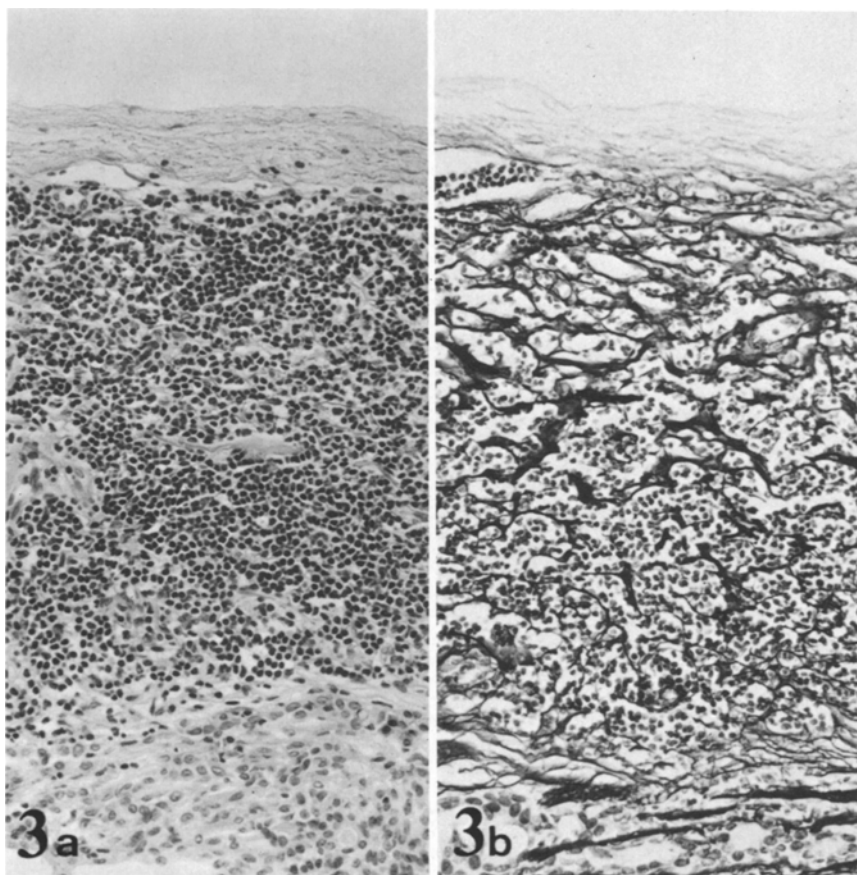
referred to our dental hospital. Clinical examination revealed a small finger tip-sized ( $22 \times 16$  mm), well circumscribed and elastic hard mass located in the right parotid region. The overlying skin was normal in colour. Sialographic examination showed no significant changes in the right parotid gland, and no connection between the right parotid gland and the mass. Benign tumor or chronic lymphadenitis was suspected clinically, and a resection biopsy was performed under local anesthesia. The cut-surface of the resected specimen was homogenous, yellowish-white in colour and firm in consistency. A few milium-sized cystic cavities containing gelatinous substance were found.



**Fig. 2a, b.** Lymphoid tissue around the tumor, 2a showing whole cut-view of the specimen demonstrating the narrow mantle of dense lymphoid tissue around the tumor mass, 2b showing lymphoid cell aggregate suggesting a lymph follicle. (a)  $\times 6.4$  and (b)  $\times 80$

### Histopathological Findings

Histological sections revealed a well demarcated typical pleomorphic adenoma showing variously arranged epithelial cells, varying amount of mucoid and cartilaginous tissues, hyalinized fibrous tissue and formation of numerous small cysts (Fig. 1). Atypical tumor cells and mitoses were not found. At the periphery of the tumor, a narrow mantle of dense lymphoid tissue was identified (Fig. 2a). Serial sections through the mass showed that the tumor was surrounded

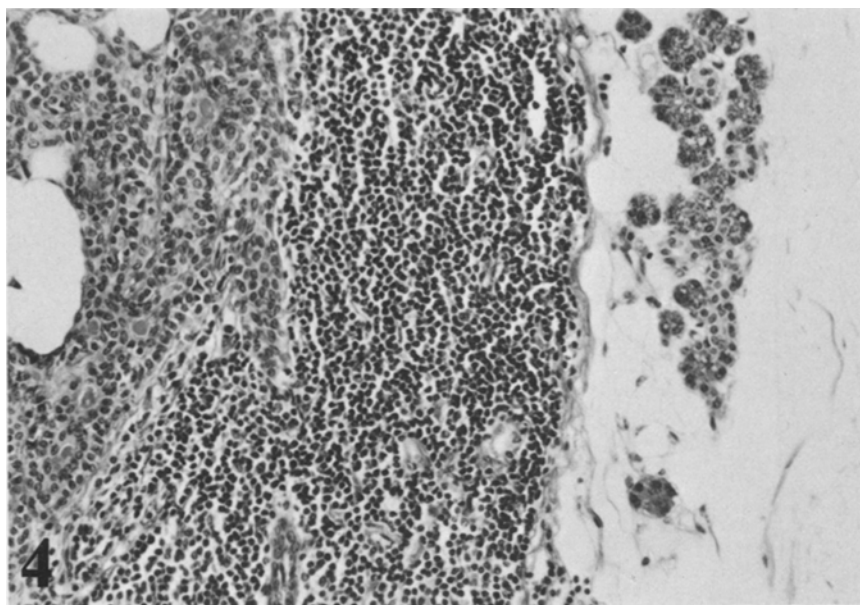


**Fig. 3a, b.** High magnification of lymphoid tissue. 3b showing marginal sinus and network of reticular fibers (silver impregnation). (a) and (b)  $\times 200$

by lymphoid tissue which had the essential characteristics of the cortex of the lymph node. In a portion of the lymphoid tissue, a lymphoid cell aggregate suggesting a lymph follicle was found (Fig. 2b). Furthermore, the marginal sinus and network of reticular fibers were demonstrated by silver impregnation (Fig. 3). Although a small amount of normal parotid gland tissue was included in the specimen, a thin fibrous connective tissue capsule separated the tumor and lymphoid tissue from the normal parotid gland tissue (Fig. 4). From the over-all appearance, this case was diagnosed as benign pleomorphic adenoma occurring as a primary lesion in the parotid lymph node.

## Discussion

A number of lymph nodes of varying sizes and shapes are found within and in close association with the parotid glands, and parotid gland epithelium is noted very frequently in these lymph nodes (Thompson and Bryant 1950; Seifert and Geiler 1956; etc.). Aberrant parotid gland epithelia in lymph nodes may give rise to certain neoplastic changes. In fact, the theories that Warthin's tumor (papillary cystadenoma lymphomatosum, WHO) and



**Fig. 4.** Thin fibrous connective tissue capsule separating the lymphoid tissue and tumor from the neighboring parotid gland tissue.  $\times 200$

benign lymphoepithelial lesion develop from displaced salivary gland epithelium included within intra- and peri-glandular parotid lymph nodes are supported by many pathologists (Godwin 1952; Bernier and Bhaskar 1958; Kleinsasser et al. 1966). Furthermore, several cases of acinic cell tumor appearing to evolve within an intra- or peri-parotid lymph node have been reported (Geiler 1957; Bhaskar 1964; Abrams et al. 1965; Kleinsasser et al. 1967). In those cases of intranodal tumors, if metastasis can be satisfactorily excluded, the origin of the lesions must be attributed to included aberrant parotid gland epithelium.

Pleomorphic adenoma is the most common of all salivary gland tumors, constituting over 50% of all cases of both major and minor salivary gland origin and approximately 90% of all benign salivary gland tumors (Shafer et al. 1974). Numerous theories have been advocated to explain the histogenesis of pleomorphic adenoma, and detailed studies have confirmed that the tumor originates through neoplastic transformation of glandular epithelium, most likely duct epithelium. Therefore there is a high possibility that the salivary gland epithelium included within the lymph nodes gives rise to a pleomorphic adenoma. However, only two cases of pleomorphic adenoma occurring in lymph nodes have been reported by Bernier and Bhaskar (1958). Their cases were a 17-year-old white girl and a 34-year-old coloured man. The former had a  $2 \times 1$  cm nodular mass of about 6 years' duration, and the latter had a pea-sized nodular mass of about 3 years' duration. The specimen of both cases demonstrated that the rim of lymphoid tissue surrounding the tumor mass was unrelated to any of the salivary gland tissues,

but they commented that the tumors in their cases were not entirely characteristic of pleomorphic adenoma. The present case showed typical histopathological features of pleomorphic adenoma, and was diagnosed as benign pleomorphic adenoma arising in parotid lymph node. This diagnosis is based on the following findings: (1) the tumor was a primary lesion without malignancy, (2) serial sections revealed that the tumor was confined to the lymphoid tissue and did not extend into the neighboring parotid gland tissue, and (3) the surrounding lymphoid tissue had the essential characteristics of a lymph node with marginal sinus and lymph follicle.

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