

Fine needle aspiration biopsy in a diagnostic workup algorithm of salivary gland tumors

S. IVANOVÁ¹, J. SLOBODNÍKOVÁ¹, E. JANSKÁ¹, J. JOZEFÁKOVÁ²

¹Department of Radiology, e-mail: jslobod@ousa.sk, and ²Department of cytology, St. Elizabeth Cancer Institute, Bratislava 812 50, Slovak Republic

Received July 25, 2002

The ultrasonic diagnosis of salivary gland diseases can give a more accurate information than clinical data alone. In diagnosis of the parotid gland diseases, it is necessary to differentiate clearly tumors from other diseases. When a tumor is suspected, its presence should be confirmed, and determined if it is solitary, multiple, unilateral or bilateral, intra or extraglandular, and benign or malignant. In the period of May 1998 to January 2001 ultrasound examinations were performed in 354 patients, FNAB with ultrasound control were performed in 152 patients with a mean age of 49.7 years. The ultrasound and cytologic findings were correlated with surgical and histologic findings. Results indicate that in patients with solid mass of the salivary gland, ultrasound examination confirmed the finding of salivary gland tumor in all patients (100%). In non-solid diseases of salivary glands the diagnostic accuracy was slightly lower. The use of ultrasound techniques in the study of salivary gland pathology is well justified, due to its capacity to provide high resolution and improving clinical diagnosis. FNAB is a simple quick, accurate and virtually complications free investigative modality. The data on its ability to distinguish between lesions requiring surgery or not are encouraging.

Key words: Fine needle aspiration biopsy, ultrasound, salivary gland tumor.

Retrospective study and recent statistical data show increasing incidence of the salivary gland tumors in Slovakia. A principal problem associated with treatment of salivary gland lesions is the decision of the clinician regarding the type of lesion being treated and its anatomical location in relation to the various associated structures. Neoplasm is considered as an insidious disease with few, if any, clinical manifestations in the early stages. In spite of this, treatment may be effective if the new tumor growth is detected early enough [3]. Numerous pathological processes in the major salivary glands are recognized by palpation, which provides a good orientation during clinical examination. For a precise diagnosis, however, the clinical findings need to be combined with radiography, ultrasonography, computerized tomography, sialography, scintigraphy, fine needle aspiration biopsy (FNAB) and magnetic resonance. These diagnostic methods are expected to determine the exact site of tumors, their size and extension [1]. Moreover, FNAB can be used in cytological evaluation of lesions.

The salivary glands are subject to many pathological processes such as obstruction/inflammation, infection, and neo-

plasia, both benign and malignant. Salivary gland tumors are relatively rare, they represent less than 3% all head and neck tumors [12]. However, in the last years we observe their increasing incidence. In 1980 the number of patients treated at the II. Stomatological Department, University Hospital, Bratislava, was 7–8 per year; in 1998 it was 37 (5 times more). Most salivary gland neoplasia occurs in the parotid, 75% are benign and most of these are pleomorphic adenoma. The most common malignant lesions of the parotid gland are mucoepidermoid carcinoma and the adenoid cystic carcinoma [10]. The submandibular gland is about one tenth frequent site of neoplasia than the parotid gland. Neoplasia of the sublingual gland is even more rare, but when it does occur it is most likely malignant. When minor salivary glands are afflicted, the most common site is the posterior hard palate or upper lip and 50% of them are malignant [16].

The early literature on cytology reported that the cytological evaluation of aspirated material from salivary gland tumors was most challenging because of the wide variety of tumor types and the heterogeneity of cell population in in-