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Accuracy of intraoperative consultation in the evaluation of salivary gland tumors

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Intraoperative consultation is mainly indicated when the histopathological diagnosis can influence the surgical approach. Regarding salivary gland lesions, intraoperative consultation is usually requested in the following circumstances: a) for cases with equivocal or inconclusive diagnosis by fine-needle aspiration biopsy, or when confirmation of the diagnosis is desired; b) to evaluate the adequacy of surgical margins; c) to determine whether lymph-node metastases are present; d) to determine the tumor type for optimal surgical management⁽¹⁾.

Classification of salivary gland tumors is commonly a challenging task. Benign and malignant tumors frequently share architecture and cytologic features, and, in addition, absence of significant cellular atypia, as well as of mitosis and necrosis, is a usual finding in the malignant ones⁽¹⁻³⁾. For this reason, in salivary gland tumors, an important key to differentiating benignancy from malignancy is infiltrative growth^(1,2). However, regardless of these difficulties, the accuracy rates of frozen section diagnosis have been reported to range from 88% to 98%, showing that this procedure is reliable and clinically valuable^(1,4,5).

In this sense, the present issue of *Jornal Brasileiro de Patologia e Medicina Laboratorial* (JBPM) brings an article entitled "Accuracy of intraoperative consultation in lesions of the salivary glands: analysis of 748 cases"⁽⁶⁾. In the study, the data base of intraoperative consultations for salivary gland lesions at the Pathology Division of Instituto Nacional de Câncer (INCA) was reviewed from January 2001 to December 2012. The diagnoses reached by intraoperative consultation were compared with the gold standard histopathological diagnoses and classified into: 1) concordant, 2) discordant, and 3) indeterminate. Accuracy was 92%, reinforcing that intraoperative consultation for salivary gland lesions is highly accurate and can contribute to the surgical approach.

The accuracy of intraoperative consultation is related to the adequate selection of specimens for frozen section. As in salivary gland tumors infiltrative growth is the key to distinguishing benign from malignant lesions, the tissue sample should include the junction of the tumor and adjacent tissues. Alterations such as neural invasion, tissue response to tumor borders, and extension beyond the confines of the gland should be investigated, since they can indicate infiltrative growth^(1,2). However, it should be noted that low-grade malignancies can occasionally present circumscribed border.

Other features that should also be evaluated in salivary gland tumors are: cellular composition, architectural arrangement, cytological features and stromal components. Some tumors show characteristic histologic structures. For instance, pleomorphic adenoma (the most common salivary tumor) should be distinguished from two malignancies – adenoid cystic carcinoma and epithelial-myoepithelial carcinoma – because tubular structures composed of epithelial and myoepithelial cells are observed in these three tumors. However, the presence of myxochondroid stroma and plasmocytoid cells, which are characteristic features of the pleomorphic adenoma, eliminate these two carcinomas from diagnostic consideration^(1,2).

Finally, when intraoperative consultation is requested for the assessment of surgical margins, frozen sections should be taken between the tumor and the closest line of excision. These sections will allow determining the distance between the tumor and the surgical resection margin.

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