Enhanced Performance of The Milan System for Reporting Salivary Gland Cytopathology: Point of View From an Asian Country

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The Milan System for Reporting Salivary Gland Cytopathology (MSRSGC) is the result of a collaborative effort by a group of cytopathologists from 16 countries, and its application is currently expanding worldwide. It has been welcomed with great enthusiasm by cytologists in search of a uniform and user-friendly reporting system for salivary gland fine needle aspiration (FNA). Many reports on salivary gland FNA using the MSRSGC have now been published, including studies from several Asian countries.

In this issue of Cancer Cytopathology, Lee et al describe their experience with the MSRSGC in Singapore in a retrospective study over 10 years. This is the largest single-institution study to report incidences for each diagnostic category of the MSRSGC, as well as the risk of malignancy (ROM) for both overall and cases with histological follow-up. They compare the incidences and diagnostic accuracies of each MSRSGC diagnostic category with those of previously published reports, and they provide a detailed discussion of the reasons for differences.

Lee et al found a relatively low incidence of “malignant” diagnoses among both the overall (3.2%) and surgically resected (3.8%) cases. The authors suggest that the incidence of malignant diagnoses might be affected by epidemiological, geographic, cultural differences, as well as by the increased accessibility to health care in Singapore. Based on our experience in Japan, the overall incidence of malignant cases is 4.1%, and this rate increases to 8.9% among resected cases (unpublished data). Thus, the lower incidence reported by Lee et al might also reflect a geographical difference in the indications for surgical resection. For example, in Japan, parotid gland masses that lack definitive findings of malignancy in older patients might be managed by conservative clinical follow-up.

In addition, Lee et al’s current study using the MSRSGC has helped to clarify some of the significant issues associated with salivary gland FNA. In their analysis, Warthin tumor was the most common histological diagnosis among the atypia of undetermined significance (AUS) category, and also was a common cause of false-positive cases. In our experience, Warthin tumors comprise approximately one third of nonmucinous cysts among the “nondiagnostic” cases and one third of AUS cases. Warthin tumors are easily diagnosed by FNA if the sample shows a combination of necrotic debris, lymphocytes, and oncocytic epithelial clusters; however, if one of these features is lacking, diagnosis by FNA can be more challenging, including the differentiation from other tumors such as Warthin-like mucoepidermoid carcinoma and acinic cell carcinoma with lymphoid stroma.

Lee et al also described difficulties in diagnosing lymphoid lesions of the salivary glands. In their study, all false-negative “nonneoplastic” cases were malignancies with lymphoid proliferations, and 11.3% of AUS cases
were malignant lymphoma, resulting in a high ROM among AUS cases. Data from Japan are similar to the incidence of malignant lymphomas, and the total incidence of lymphoid lesions, including lymphomas, was about one third among AUS cases. Diagnosing lymphoid lesions based only on cytomorphology in FNA specimens is often difficult, but the use of ancillary studies like flow cytometry or immunocytochemistry for FNA specimens is limited in Lee et al’s study, partly because it was a retrospective analysis of former cases. The MSRSGC has made us aware of the importance of ancillary testings for a select subset of salivary gland FNAs. Further studies with the use of ancillary testings are expected to facilitate the diagnostic utility of MSRSGC.

The MSRSGC provides the international community including Asian countries with a common, uniform language for salivary gland FNA. It not only enables the comparison of data among institutions, it also provides a reliable tool for quality control. In this way, the MSRSGC is leading the way toward better patient care.

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REFERENCES