Is It Time to Extend Synoptic Reporting to Include Non-Malignant Oral Epithelial and Lichenoid Lesions?

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As practicing oral and maxillofacial pathologists, we expect that clinicians who send us tissue specimens for interpretation will rely on the biopsy report to guide their treatment. Synoptic reporting, the use of structured checklists to produce standardized biopsy reports that ensures inclusion of all clinically important information in a format that is relatively consistent across pathology departments and pathologists[1], is the standard of care for pathology reports of excisional biopsies/resections of most malignancies. In our immediate area of expertise, the College of American Pathologists (CAP) offers "Cancer Protocol Templates[2]" for resection of malignancies of the lip and oral cavity, major salivary glands, nasal cavity and paranasal sinuses, pharynx, larynx, thyroid, lymphomas, plasma cell neoplasms, tumors of soft tissue (including intermediate, locally aggressive neoplasms), as well as biomarker testing of specimens from patients with tumors of the head and neck. While the use of synoptic reporting templates is only mandated for pathology laboratories accredited through CAP for definitive resection specimens, these templates can serve as a valuable resource to ensure that the pathologist is providing the referring clinician with important clinical and prognostic information such as tumor grade, minimum depth of invasion, lymphovascular invasion, neural invasion and inflammatory response, even in the case of incisional biopsies of malignant head and neck neoplasms.

Recognizing the clear benefit of synoptic reporting, why restrict its use to malignant neoplasms? Benefits from extending synoptic reporting to non-malignant but potentially preneoplastic oral epithelial lesions and lichenoid lesions include improved communication with the referring clinician, increased patient understanding and appreciation of the nuances of their condition, and improved data collection for studies looking at natural history of disease, prognostic factors, and treatment outcomes; all of which should ultimately leaded to more effective patient management.

A significant component of many oral pathology biopsy services involves the evaluation and interpretation of the full spectrum of benign oral epithelial lesions that may be associated with a greater than average risk of neoplastic transformation, including lichenoid lesions, hyperkeratosis, epithelial hyperplasia, and varying degrees of oral epithelial dysplasia. These represent a continuum of conditions that can be challenging, both clinically and histopathologically, to assess as well as to manage. Therefore, particularly with respect to the spectrum of histopathologically overlapping "potentially preneoplastic oral epithelial lesions" (PPOEL) and lichenoid lesions, synoptic reporting would be anticipated to improve communication with referring clinicians. While acknowledging the uncertainty that will likely always exist with respect to predicting long-term clinical outcome in many of these case, as oral and maxillofacial pathologists we are, by most objective measures, the specialists with the most expertise in this area. On a daily basis we encounter biopsies from patients with patients with oral epithelial lesions with potentially worrisome histopathologic or clinical features that in aggregate don't meet objective criteria to be signed out definitively as dysplasia. While we

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should not be expected to offer a definitive estimate as to the long-term risk of malignant transformation, we all recognize that our assessment of relative risk varies in response to subtle histopathologic features and overall clinical presentation. Aggregating these modifiers in a clear and concise manner is the main benefit of synoptic reporting for PPOELs.

Parameters to include on these structured checklists can be divided into discrete categories: i) location, type of biopsy (incisional versus excisional) and relevant clinical or social history (e.g. 20 pack year smoking history; history of squamous cell carcinoma at same site; history of long-term systemic immunosuppression); ii) an assessment of the degree of confidence in the diagnosis (Is the biopsy adequate and representative? Are there accompanying clinical photographs and do they support the histopathologic interpretation? Are there confounding factors such as ulceration or candidal infections that may result in difficulty assessing if any epithelial changes are reactive or neoplastic?); iv) a summary of clinically relevant modifiers accompanied by a brief narrative as to the possible significance of these features; v) a summary of any histopathologic modifiers, both positive and negative, of potential clinical significance, accompanied by a brief narrative as to the possible significance of these features; vi) itemized list of any special stains, staining patterns and brief interpretative overview; vii) overall interpretation, including, where applicable, a qualitative assessment of the long-term premalignant potential of the lesion, modified by identified risk factors (of course, to include an accompanying disclaimer that the overall risk estimate is, at best, an estimation); viii) recommendations for further management, as appropriate.

Collection of the most important diagnostic information needed to fully populate the synoptic report can be facilitated by including specific checklist questions on the biopsy submission form that accompanies the tissue, as advocated for by Cheng and colleagues in their recent American Academy of Oral and Maxillofacial position paper on the diagnosis of oral lichen planus.[3]

There is no doubt that many of us currently reference these matters; in the microscopic description section, in a separate comment section, or by directly talking to the referring clinician. But, from a practical perspective, many clinicians do not have the time or experience to interpret the full range of histopathologic nuances that may be contained in the microscopic description section of the pathology report. For the busy clinician, managing tens of patients a day, the ability to quickly identify the most significant features in the report, in a concise, easy to read, and consistent format, only facilitates patient care. A well-constructed synoptic reporting section in the biopsy report may even preclude the need for a "microscopic description section," the bulk of which, particularly in an unstructured format, is likely of minimal value to the interpreting clinician; in many cases serving instead to increase clutter and lead to distraction[4]. This is of even greater benefit for the non-oral and maxillofacial surgeon practitioner, who may not routinely see the full spectrum of PPOEL and lichenoid lesions.

Moreover, the movement towards greater patient involvement in the management of their own health will only accelerate. As part of this changing landscape, patient receipt of electronic copies of their own biopsy reports will become the norm. Some hospitals are even experimenting with a multidisciplinary team approach, in which the pathologist and the

surgeon meet directly with the patient to review their pathology report and explain how these findings may impact treatment and prognosis[5]. In this scenario, synoptic reporting of PPOELs and lichenoid lesions will help to increase a patient's appreciation of the nuances of their disease[6] and enhance a patient's understanding of their clinician's treatment advice (e.g. the recognition that PPOELs represent a chronic condition requiring long-term reassessment and, in many cases, repeat biopsies).

Finally, as noted by Cheng and colleagues, with respect to lichenoid lesions, "a structured, standardized basis for reporting data is lacking, and important clinical information and/or histopathologic evidence are often missing in publications[3]." The same rationale extends to PPOELs, arguing in favor of a third potentially very significant benefit of synoptic reporting: improved standardization of data collection.

Acknowledging these factors, it's clear that for the benefit of our patients with PPOELs and lichenoid lesions, and for the referring clinicians who are our partners in their long-term management, we must strive to provide relevant information in a concise, consistent and easily interpretable format. It clearly is time to extend synoptic reporting to biopsies of non-malignant oral epithelial and lichenoid lesions.

Respectfully submitted,

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