

# Cytopathology and More | FNA specimens for HPV molecular testing in head and neck SCC



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**January 2015—Fine-needle aspiration plays a large role** at many institutions in the diagnosis of head and neck cancers, and aspiration of enlarged cervical lymph nodes in older individuals is among the more common requests for cytology services. Being that squamous cell carcinoma is by far the most common epithelial malignancy of the head and neck region and that cervical lymphadenopathy in older individuals is one of the more frequent initial manifestations, optimizing these aspirations to direct patient care is a worthy goal.

Squamous cell carcinomas of the head and neck traditionally affect older individuals with a history of tobacco and alcohol use and do not respond favorably to chemoradiation therapy. More recently, a subset of head and neck squamous cell carcinomas has been identified as being HPV-associated. There appears to be an increasing incidence of HPV-related SCCs of the head and neck affecting middle-aged to older men without the traditional risk factors of tobacco and heavy alcohol use. When the primary tumor site is the oropharynx, HPV-related SCC has been shown to have more favorable outcomes and better treatment response. Therefore, in many situations of head and neck SCC, HPV status can define a patient's prognosis and even help determine an original tumor site in cases of occult primaries.

The study by Lastra, et al., illustrates a fairly large institutional experience (70 cases) with HPV and p16 (considered a surrogate marker for HPV status) testing on FNAs where squamous cell carcinoma was diagnosed (Lastra RR, et al. Adequacy of fine-needle aspiration specimens for human papillomavirus infection molecular testing in head and neck squamous cell carcinoma. *CytoJournal*. 2013;10:21). In their study, they tested needle rinses for HPV DNA using the Cervista HPV HR test from Hologic and performed immunohistochemical staining for p16 on cell blocks from a subset (43 cases) of the cohort. Their findings indicate that successful HPV DNA testing can be performed on what are sometimes very limited FNA samples. Interestingly, they had success with having adequate material for HPV testing on predominantly necrotic aspirates. This was a crucial finding in that usually lymph node samples involved by metastatic SCC show extensive necrosis, which, if identified during on-site evaluations, might dissuade a cytopathologist from pursuing HPV testing. In addition, their study demonstrates good correlation between p16 and HPV DNA testing.

This study by Lastra, et al., is recommended reading for cytopathologists and their respective laboratories. It goes a long way in demonstrating that HPV testing in the presence of SCC morphology can function as a standard part of a cytologic workup.

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