Manchester Cancer

Head and Neck Cancer
Recommendations and method for Human Papilloma Virus (HPV) Testing in Pathology Laboratories across Greater Manchester

Background

- Incidence of certain types of upper aerodigestive tract cancer are on the increase and this seems largely accounted for by what is being described as an epidemic of HPV associated squamous cell carcinomas (SCC) of the oropharynx, specifically those areas containing native lymphoid tissue, tongue base and tonsil
- Presentation is different from conventional head and neck SCC. Patients are younger and in many cases have no history of exposure to tobacco and / or excessive alcohol consumption
- The typical clinical presentation is with a neck mass and the primary tumour is often small and in many cases undetectable
- At present there are no differences in treatment for patients with HPV associated and non HPV associated oropharyngeal carcinoma but this is likely to change when outcome data of clinical trials is available.
- We know that patients with HPV positive tumours have much better 5 year survival rates, particularly those who are non-smokers

How to test

- There are several ways in which presence, integration and activity of the virus can be assessed including p16 immunohistochemistry (IHC), PCR, ISH for viral DNA or RNA and detection of viral proteins.
- No one test has been found to be the perfect test, not all techniques will be available in all laboratories, some rely on fresh tissue and cost needs to be taken into account
- At present, p16 immunohistochemistry is regarded as an excellent surrogate marker for HPV infection. There are almost no cases of p16+ HPV – tumours (high sensitivity). Around 80-85% of tumours that are p16 + will be HPV + with ISH. Those tumours that are p16 + HPV ISH - still carry a good prognosis.
- p16 IHC is a cost effective and assumed widely available test that should be performed on biopsies found to contain squamous cell carcinoma in the situations outlined below

Who or what to test with p16 IHC

- All oropharyngeal (tongue base and tonsil) squamous cell carcinoma
- Cervical lymph node biopsies or excisions containing metastatic squamous cell carcinoma of unknown primary origin
- If a cell block can be made from FNA material from a cervical lymph node reported as SCC in instances where no biopsy material containing tumour is available.
- A commonly used criterion for positive staining is 70% strong diffuse nuclear and cytoplasmic staining.

Gillian Hall, May 2014 on behalf of Manchester Cancer