

Minutes of the Meeting of the Derby Medical Society

Tuesday 10th February 2026

Derby Medical School Lecture Theatre

Welcome by President Prof Owen Judd

Minutes of previous meeting are available on the website

Professor Owen Judd presented a presidential pin to Mr Keith Jones who was president of the Society 2016-17

Introduction of Speaker for this evening Dr Elizabeth Marsh previously Researcher from University of Derby. Now at Department of Environment

Oral HPV Prevalence and Clinical Implications

Background

Human papillomavirus (HPV)-positive oropharyngeal cancers (OPCs) of the base of the tongue and tonsils are increasing at a global rate of ~4% per year (T. Waterboer, personal communication). The knowledge of the natural history (prevalence, pathogenesis, and persistence) of the virus within the oropharynx is limited, with prospective studies of oral HPV pathogenesis sparse; we do not know how HPV causes OPC. The risk of infection is linked to alcohol consumption, smoking, age, and sexual behaviours. Men are at greater risk of oral HPV-mediated infection and disease. Increased data on the prevalence within the general population would enable improved associations between risk factors, lifestyle choices, and oral HPV infection to be made, thereby informing public health interventions.

Further research to better describe how HPV influences the host cell biology and viral pathogenesis in the healthy oropharynx would improve outcomes for patients, enable identification of groups of individuals at risk of disease, and identify subsets of individuals suitable for targeted therapies. Together, this would be beneficial to the field, given the rapidly increasing global incidence of HPV-OPC.

This project therefore aimed:

- A. To investigate the prevalence of oropharyngeal HPV within the non-cancerous tonsil tissue of adults undergoing elective tonsillectomy surgery, and to examine viral pathogenesis in any HPV-positive tissues
- B. To determine a 'protein expression blueprint' for HPV-DNA positivity within non-cancerous tonsil tissue to provide insight into how HPV influences host cell biology in the oropharynx
- C. To provide an up-to-date estimate of the overall global burden of oral HPV within the healthy adult population

There are hundreds of HPV types 15 of which are carcinogenic.

Rates of vaccination poor in UK 75.5 % girls 70.5% boys in comparison to other countries where coverage is up to 90%.

How does HPV cause cancer in the head and neck ? we don't know

We understand it well in cervical cancer.

Men have higher prevalence of oral HPV and less circulating Ab. Prevalence in normal population is 35%

Researchers are studying tonsils taken out operatively –to study HPV infections, along with a swab and history and lifestyle questions.

HPV lives in deep tonsillar crypts. HPV 16 and 18 have been found on analysis by PCR. Prevalence in this cohort is 10.17% and type 18 was the most common. In Scotland its type 16.

Mass Spectrometry is used to define the protein tags on the HPV positive tissues

Aim is to find biomarkers of infection and risk of malignancy, AI can map the 'protein hits'

Men have higher infection rates and burden of malignancy.

HPV 16 infected tissues produce oropharyngeal squamous cell carcinomas. Characterised by keratinising tumours -HPV positive tissue will stain diagnostically.

There has been public engagement – screening of shoppers 230 people 2 seen in clinic...

There needs to be more education of cause and encouragement to take up the vaccination.

Bindhi Sahota – ENT surgeon -illustrated with anecdotes of famous sufferers. Notably Rod Gilbert, who has documented his journey with oral cancer treatment.

The HPV vaccine is not available to men over 45 who are heterosexual – even if they are occupationally at risk.

There is development of a vaccine which will act as immunotherapy in active and metastatic disease.

Conclusion:

Our data demonstrate that HPV is prevalent and active within the tonsils of healthy individuals. We find a significant enrichment of proteins involved in translation are downregulated in tonsil tissues of men in the presence of HPV, which may begin to reveal why we observe a higher oral HPV infection and disease burden in men. Our future work aims to validate and characterise the proteins dysregulated in HPV-positive tissues, such that we describe a tonsillar ‘signature’ indicative of HPV-mediated cellular changes. Multivariate analysis will allow identification of populations at risk of HPV-mediated disease who would benefit from further intervention, and monitoring for HPV-induced cellular changes. Together, our work has implications for strategies to prevent HPV-mediated disease.

26 members and guests signed the register.