Narrow Band Imaging for the early detection of recurrent laryngeal papillomatosis

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INTRODUCTION

Laryngeal papillomatosis (LP) is a chronic disease of viral aetiology. Human papillomavirus (HPV) types 6 and 11 are the implicated viruses and the typical picture is that of multiple papillomata in the upper aerodigestive tract.

In children and young adults it is the commonest laryngeal pathology found, and the second most common cause of childhood hoarseness. LP has a significant impact for young patients, including the morbidity associated with multiple therapies, potential for tracheobronchial disease and psychological impact on the family.

Although the lesions are benign, they have the potential for malignant transformation.

The current gold standard in the management of LP is surgery, with the aim to remove all papillomata and therefore viral infected tissue. The mean number of surgeries required to eradicate all LP has been reported to be 4.4.

A number of adjuncts to primary surgery have been proposed, ranging from systemic viral inhibitors such as alpha-interferon to oral antivirals such as cidofovir. Cidofovir is a common adjunct to primary surgery in the treatment of LP. It is recognised that cidofovir can induce apoptosis in HPV-positive cells. It is applied and further suspicious lesions were annotated.

RESULTS

Filtration of white light to produce an image that enhances superficial tissue contrast

Initially developed for gastrointestinal endoscopy

Uses a trichomethodological tree, oesophagus, stomach, duodenum, bladder and head/neck

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NARROW BAND IMAGING

METHODS

In the outpatient clinic all subjects were examined with high definition television (HDTV) white light imaging (WLI). The location and size of papillomata were noted.

Narrow Band Imaging (NBI) allows for increased tissue contrast, specifically in this instance, the identification of abnormal tissues in Laryngeal Papillomatosis.

Any operative management was planned using information from WLI and NBI to enhance the superficial contrast in images seen through flexible or rigid endoscopy.

Aims of Study

To assess the use of Narrow Band Imaging in the early detection of recurrent laryngeal papillomatosis

Subjects underwent microlaryngoscopy and papillomata were treated with a combination of CO2 laser excision and injection of intralesional cidofovir.

CONCLUSION

Narrow Band Imaging aids in the detection of early recurrent laryngeal papillomatosis allowing a more precise staging in 25% of cases, and allows for accurate targeting of intralesional cidofovir and/or surgical resection.