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High-sensitivity FEES

Peterková L.[1], Dostálová L. [1], Mrázková L. [2], Hrušková M. [2], Plzák J.[1]

[1] Department of Otorhinolaryngology and Head and Neck Surgery, 1st Faculty of Medicine, Charles University in Prague and Motol University Hospital
[2] Department of Rehabilitation and Sports Medicine, 2nd Faculty of Medicine, Charles University in Prague and Motol University Hospital

INTRODUCTION

Flexible endoscopic evaluation of swallowing (FEES)

- An instrumental procedure used in clinical practice to develop a comprehensive understanding of swallowing safety (penetration-aspiration) and efficiency (pharyngeal residue)

Narrow band imaging (NBI)

- An endoscopic method used for the diagnosis of muconasal changes
- Helps to see the muscosal surface with greater contrast - achieved by using a specially filtered light

By coloring the bolus with green food colorant and using NBI, the bolus will change its color from green to red

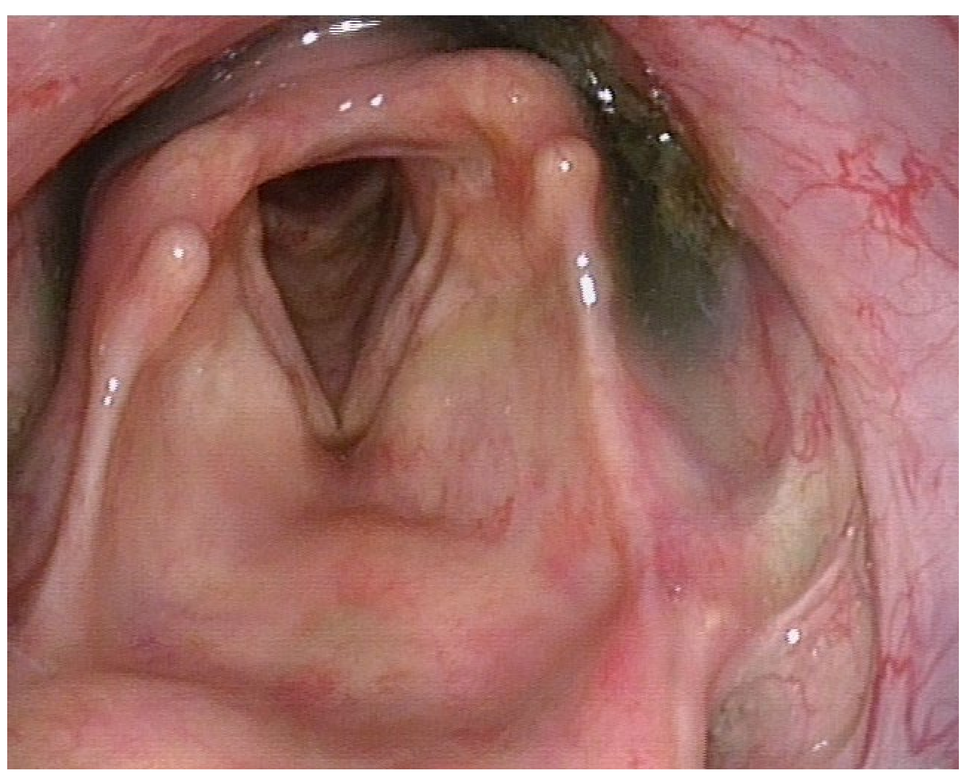
The combination of NBI and FEES can provide a more detailed investigation method in patients with a difficult laryngoscopic finding

MATERIALS AND METHODS

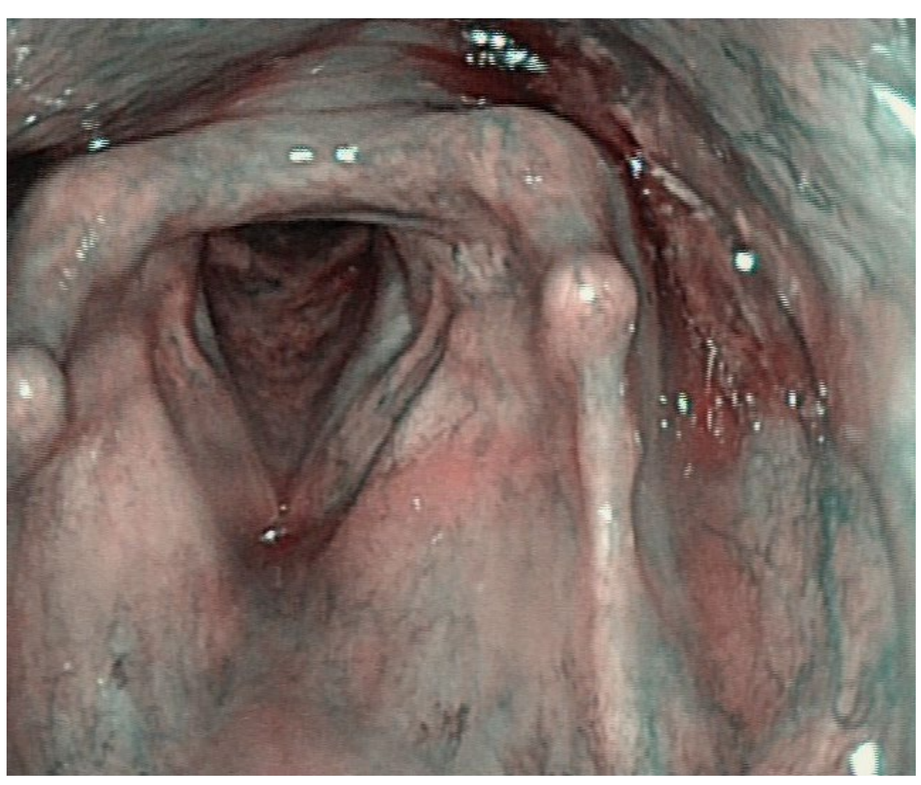
- We started to use High-sensitivity FEES in 2019 in some difficult cases (where we suspected the detection of a minor, but relevant penetration or aspiration)
- The tip of the endoscope was positioned within the oropharynx before, during, and after all swallows
- During FEES, we used white light from pre to postdeglutitive endoskopy
- During the postdeglutitive phase, the illumination was switched to NBI mode

RESULTS

- The green- colored bolus turns bright red, with an contrast enhancement.
- Even small amout of penetrated bolus parts and the thin diffuse secretion layers can be visualised very well
- Especially when the bolus of liquid was very quick aspirated – we could nicely see the red liquid deep in the subglottic area



FEES



HS - FEES

CONCLUSION

- The combination of NBI and FEES can improve clinical diagnosis in case of questinable penetration and aspiration
- HS-FEES is very helpful to detect smallest amounts of bolus, due to the striking contrast of NBI illumination, when using green food color

Email: lenka.peterkova@fnmotol.cz