NARROW BAND IMAGING® CYSTOSCOPY IMPROVES THE DETECTION OF NON-MUSCLE INVASIVE BLADDER CANCER

Evelyne C.C. Cauberg, Sarah Kloen, Mike Visser, Jean J.M.C.H. de la Rosette, Marko Babjuk, Viktor Soukup, Michael Pesl, Jaroslava Duskova, Theo M. de Reijke

Department of Urology, Medical Center, Amsterdam, The Netherlands

OBJECTIVE
To determine whether Narrow Band Imaging (NBI®) improves detection of non-muscle invasive bladder cancer (NMIBC) over white light imaging (WLI) cystoscopy.

METHODS
The researchers conducted a prospective, within-patient comparison on 103 consecutive procedures on 95 patients scheduled for (re-)transurethral resection of a bladder tumor or bladder biopsies in the Academic Medical Center, Amsterdam (September 2007-July 2009) and in the General Faculty Hospital, Prague (January-July 2009). WLI and NBI cystoscopy were subsequently performed by different surgeons who independently indicated all tumors and suspect areas on a bladder diagram. The lesions identified were resected/biopsied and sent for histopathological examination. The number of patients with additional tumors detected by WLI and NBI were calculated; the mean number of urothelial carcinomas (UCs) per patient, detection rates and false-positive rates of both techniques were compared.

EQUIPMENT USED
- 24 French rigid endoscope (OESPro, Olympus Medical Systems), connected to an Olympus Evis Exera II Xenon light source

RESULTS
A total of 78 patients had a confirmed UC; there were 226 tumors in total. In 28 (35.9%) of these patients, a total of 39 additional tumors (17.3%) (26pTa, 6pT1, 1pT2, 6pTis) were detected by NBI, whereas 4 additional tumors (1.8%) (1pTa, 1pT1, 2pTis) within 3 patients (2.9%) were detected by WLI. The mean (SD, range) number of UCs per patient identified by NBI was 2.1 (2.6, 0-15), versus 1.7 (2.3, 0-15) by WLI (p<0.001). The detection rate of NBI was 94.7% versus 79.2% for WLI (p<0.001). The false-positive rate of NBI and WLI was 31.6% and 24.5%, respectively (p<0.001).
CONCLUSIONS

This preliminary study has demonstrated that NBI cystoscopy significantly improves detection of primary and recurrent NMIBC over WLI, particularly for Ta and G3 lesions. The false-positive rate of NBI is somewhat higher compared with WLI, even higher for recurrent tumors and after intravesical instillations, but still seems acceptable. Whether NBI-assisted TUR also results in decreased early “recurrence” rates and longer disease-free interval still has to be evaluated in future trials.

Note: This summary is for informational purposes only. Publication abstract and access to full article can be found at: