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Images in Endoscopy

Narrow Band Imaging in Endometrial Lesions

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Hysteroscopy with directed biopsies has a key role in the diagnosis of intrauterine pathologies. In a series of 4054 patients, sensitivity of hysteroscopic view for endometrial cancer is 80%, suggesting that visual identification of morphologic changes in the endometrial mucosa is not always enough for a diagnostic conclusion [1].

In the literature, several studies indicate that angiogenic intensity may play a prognostic role in malignancies [2,3] and a report in 2006 showed that, in endometrial cancer, tumor-associated vessels are structurally and functionally abnormal and that structural changes are associated with increased frequency of vascular invasion and decreased survival [4].

Narrow band imaging (NBI) is a novel endoscopic technique able to enhance the accuracy of diagnosis by using narrowbandwidth filters in a red-green-blue sequential illumination system. The light penetration depth depends on the wavelength used: the blue filter is designed to correspond to the peak absorption spectrum of hemoglobin so that NBI allows appreciation of the mucosal pattern and surface microvasculature simply through an on-off switch located on the head of the endoscope.

NBI appears to be a promising tool for diagnosis of gastrointestinal lesions, early detection of squamous cancer of the head-neck region, preneoplastic lesions in heavy smokers, and follow-up in patients affected by urothelial carcinoma of the bladder [5,6].

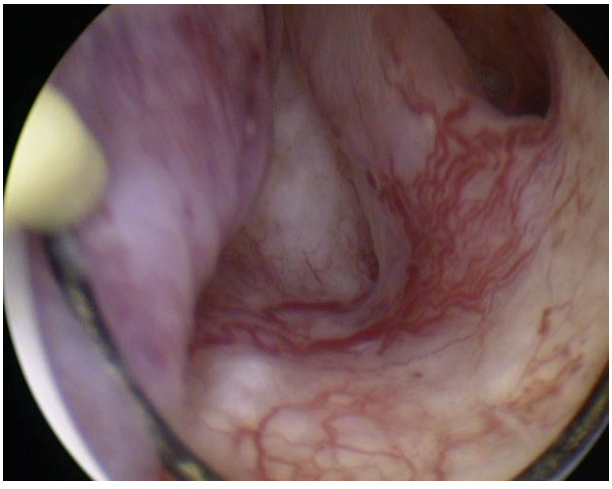

Fig. 1. Conventional hysteroscopy shows irregular polypoid hypertrophy of softened consistency.

In 2007, it was reported that NBI allows an easier visualization of endometriosis lesions and a simpler evaluation of their real extension [7].

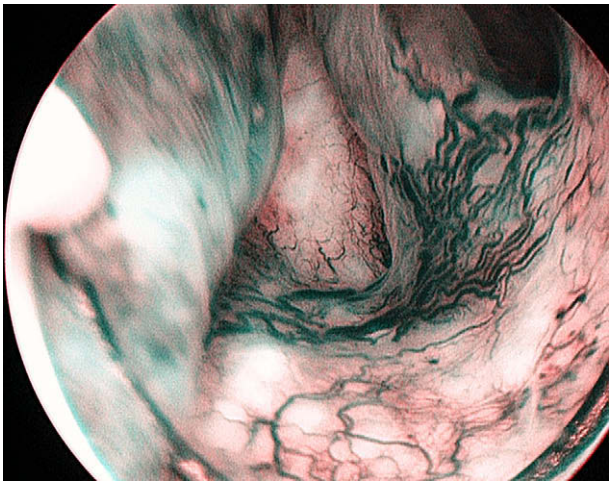

Fig. 2. Hysteroscopy by using narrowband imaging shows thick and irregular microvessels.

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However, there is no evidence in literature about the use of NBI in the detection of endometrial lesions.

In our department, we are assessing postmenopausal patients affected by abnormal uterine bleeding using NBI together with magnifying endoscopy when performing hysteroscopy. In our initial experience, NBI allows a clear visualization of microvascular architecture, helping the surgeon in identifying suspected areas, even if small, with thick and irregular microvessels.

A case of G2 endometrioid adenocarcinoma evaluated by conventional hysteroscopy and with NBI is shown in Figs. 1 and 2. Images were taken with an endoscope system (Olympus EXERA II video; Medical Systems Cooperation, Tokyo, Japan) via a 30-degree 4-mm telescope (Olympus Winter and Ibe GmbH, Hamburg, Germany).

In our opinion, NBI could be a useful additional methodology for early detection of endometrial lesions providing an increase of accuracy in visual identification of both endometrial cancer and hyperplasia.

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