Identification of Endometriosis with Narrow Band Imaging

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Study Objective
To demonstrate a new technique using narrowband imaging for identification of endometriosis

Design
Step by step illustration of the difference in visualisation of endometriosis using visible light spectrum laparoscope as compared to narrow band imaging light source.

Setting
Radical excision of endometriosis is considered the best treatment to control the disease extent and symptoms of endometriosis. Therefore, it is imperative that all endometriotic lesions are recognised and identified in order to thoroughly remove them.

Narrow band imaging system enhances visualization of capillary vessels and microstructures containing blood hemoglobin on the mucosal surface. It makes use of 415 and 540 nm filters that are strongly absorbed by blood hemoglobin. In this manner, micro vessels which are not clearly seen by conventional light are enhanced. With the inherent neovascularization seen in endometriosis, endometriotic lesions may be more recognisable. Clear vesicular lesions of endometriosis are glandular excrescences, which are early signs of recurrent inflammation from endometriosis with accompanying angiogenesis. These are more pronounced under narrowband imaging.

Intervention
The use of visible light spectrum contrasted with narrow band imaging that changes the normal color contrasts of the endoscopic image in the different areas of the pelvic cavity.

Main Results
Narrow band imaging is helpful as an additional modality for the identification of endometriosis. In particular, clear vesicular lesions of endometriosis which are not as evident under visible light spectrum are more pronounced under narrow band imaging. However, its utility is decreased if performed after the initiation of surgery due to the bleeding incurred from dissection.

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Conclusion
Narrow band imaging can be used as an adjunct to improve the detection of endometriosis.