

79

An intra-abdominal lens-cleaning device reduces operative duration in laparoscopic excisional surgery for DIE: initial results of an in-service evaluation study

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Abstract

Background

Laparoscopic excisional surgery for deep infiltrating endometriosis relies on good endoscopic views of the operative field deep within the pelvic spaces. Blood spatter, ultrasonic plume, electrosurgical smoke and fat smears affecting the laparoscopic tip obscures the surgical view requiring removal of the laparoscope for extra-abdominal cleaning, reinsertion and reorientation of the view eating up valuable operating theatre time and prolonging anaesthesia duration. Various techniques and products exist to tackle this problem.

Methods

In this prospectively evaluated in-service pilot study of a proprietary device for intra-abdominal lens cleaning (OpClear, Cipher Surgical, UK), we present initial results of the operative time saved by using the device, compared to cases prior to the pilot study without the device. All cases involved deep infiltrating endometriosis requiring rectovaginal septum and pararectal dissection. The device comprises a thin disposable sheath attached to the laparoscope delivering intrabdominal surgeon-activated CO₂/saline lens tip cleaning.

Results

Without the device, the laparoscope was removed from the abdomen 12 times per case ([median], range 9-18), requiring 13 minutes 34 seconds of operative time for extra-abdominal lens cleaning ([mean], range 7m45s - 15m12s). After introduction of the device, all cases were completed without the need for removal of the laparoscope for the duration of the procedure.

Conclusions

In this study, the evaluated lens-cleaning device reduced operative duration. A cost-effectiveness evaluation is in progress.