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Anal sphincter injuries from stapling instruments introduced transanally: randomized, controlled study with endoanal ultrasound and anorectal manometry.

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Abstract

PURPOSE: Injury sustained from the transanally introduced stapling technique was assessed by comparing with biofragmentable anastomotic ring anastomosis, which excluded anal manipulation.

METHODS: A randomized, controlled trial was conducted on consecutive patients undergoing sigmoid colectomy (where pelvic nerve injury was avoided). A bowel function questionnaire was administered six months after surgery. Anorectal manometry and endoanal ultrasonography were performed preoperatively and at six months postoperatively. The observers were blinded to the randomization.

RESULTS: There were 18 patients in the transanally introduced stapling technique group and 17 patients in the biofragmentable anastomotic ring group, with no differences in age, gender, Dukes staging, and follow-up. Three of the transanally introduced stapling technique patients had occasional liquid soiling, which was absent in biofragmentable anastomotic ring patients. Mean change in resting anal pressures was also significantly impaired when compared with patients with biofragmentable anastomotic ring ($P = 0.007$). Endosonographic internal sphincter fragmentation was found in five transanally introduced stapling technique patients but none after biofragmentable anastomotic ring anastomosis ($P = 0.046$). Internal sphincter fragmentation was associated with the impaired resting pressures ($P = 0.007$). External sphincter deficiencies were found after transanally introduced stapling technique in two patients (biofragmentable anastomotic ring = 0), and these were associated with the soiling ($P = 0.005$).

CONCLUSIONS: The transanally introduced stapling technique may result in anal sphincter defects and impaired anal pressures when assessed at six months of follow-up.

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