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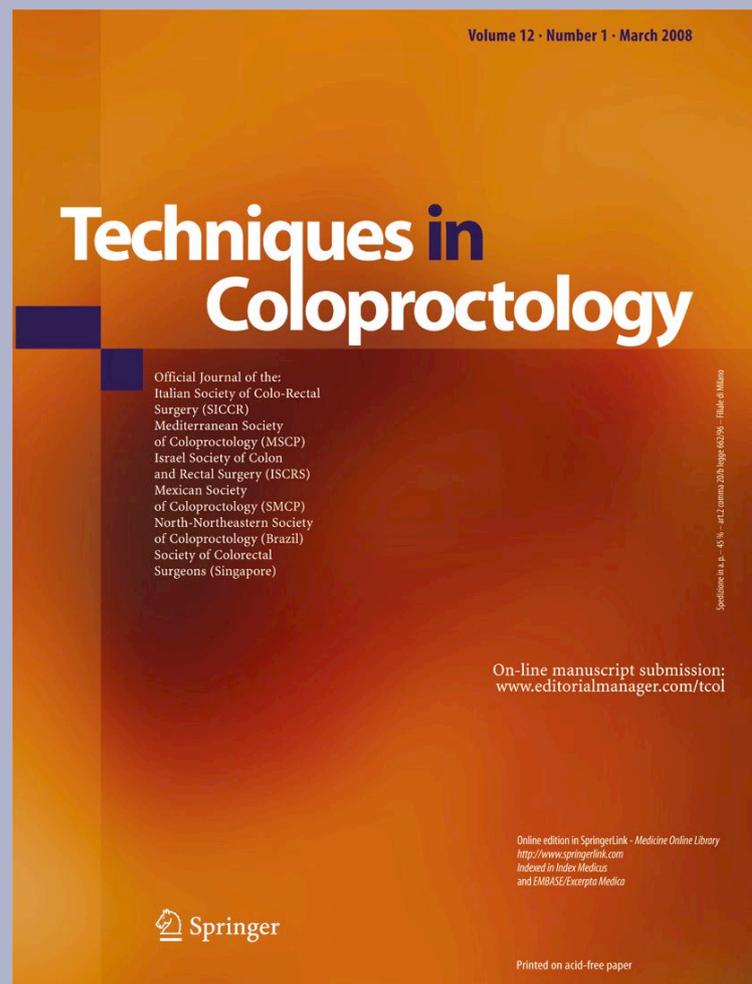
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Saving time stitching thick biological mesh during laparoscopic ventral rectopexy

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Abstract We present a trick to save time at stitching of thick biological mesh during laparoscopic ventral mesh rectopexy by the use of a belt hole puncher.

Keywords Laparoscopic ventral mesh rectopexy · Biological mesh · Hole puncher

Laparoscopic ventral mesh rectopexy (LVR) is a novel, widely used procedure for correcting internal and external rectal prolapse. Since its first description in 2004, some authors have reported that it is safe and improves obstructive defaecation symptoms as well as faecal incontinence, without inducing new-onset constipation, possible after posterior rectopexy [1–3].

This evidence is mainly based on using synthetic mesh for rectal fixation and suspension, which augments the efficacy of the reconstructive procedure while reducing recurrences. However, prosthetic-related complications, such as erosions and infections, are challenging complications associated with the use of synthetic mesh [4]. The recent introduction of biological mesh, capable of remodelling soft tissue and replacing native tissue, might make possible a ‘safer’ reconstructive procedure and greater resistance to infection in the absence of a permanent foreign material [5]. Despite current evidence does not suggest the indisputable superiority of any biologic mesh in

terms of clinical outcomes including longer-term efficacy, we have recently reported stable and comparable improvements in terms of constipation and faecal incontinence in a series of 38 LVR using biological cross-linked meshes [4]. However, as surgeons who use biological mesh know, this type of mesh is thicker and it is therefore difficult to apply stitches during mesh fixation. For instance, the commonly used biological meshes are between 0.8 and 2 mm in thickness. Moreover, conversely to synthetic meshes, common biological meshes are uniform without an evident net design, and when placing sutures in the mesh, it is difficult to see what lies behind it. This difficulty is increased when the surgery is performed laparoscopically, deep in the pelvis and the stitching starts from the levator ani muscles. As a matter of fact, this step becomes the most time-consuming and frustrating part of the procedure. A previously cut mesh with holes might overcome this problem. Therefore, we make holes using a leather hole punch (Fig. 1) that can be bought for a handful of euros and is autoclavable and thus reusable.

Briefly, using a 4-trocar technique and a 30-degree scope, an antero-lateral dissection is performed between the rectum and the vagina, starting from the sacral promontory, down to the levator ani muscles. A 3 × 18 cm strip of biological mesh (Permacol, TSL plc, UK) is shaped and eight holes are made in the long sides of the mesh using the leather hole punch in each long side every 3–4 cm, as shown in Fig. 2.

The mesh is introduced through the 12-mm port, positioned in the dissected pocket at the level of the levator ani muscles and sutured to the anterior wall of the rectum using two parallel rows of non-absorbable 2-0 sutures (Tycron, Covidien, Tyco Healthcare UK Ltd).

The mesh is then secured on the sacral promontory using the Protack device (Autosuture, Covidien, Tyco Healthcare

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Fig. 1 Leather hole punch



Fig. 2 Biological mesh with holes made using leather hole punch

UK Ltd), and the vaginal vault (or cervix) is fixed to the mesh without traction by two additional absorbable sutures (Vicryl 2-0) (Fig. 3). The procedure ends with the closure of the peritoneal incision using a running absorbable suture 2-0 (V-Lock, Covidien, Tyco Healthcare UK Ltd). This simple trick allows a faster, more symmetric as well as correct placement of sutures.

Conflict of interest The authors have no conflicts of interest or financial ties to disclose.

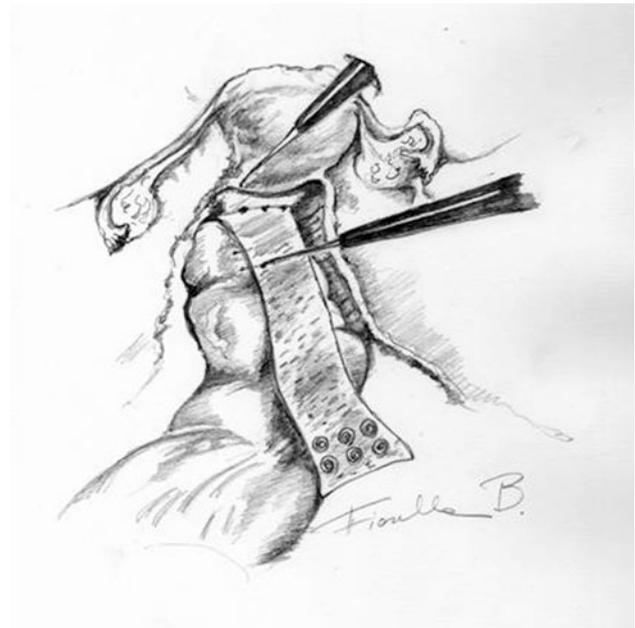


Fig. 3 Rectopexy

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