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Editorial

Needles do not kill?

¿Las agujas no matan?

Understanding of the pathophysiological concepts of stress urinary incontinence (SUI) has changed in recent years, which has led to development of new therapies and surgical procedures.

Minimally invasive synthetic slings such as the tension-free vaginal tape (TVT), which replaced Burch colposuspension for the treatment of SUI, have become the preferred technique in the past decade. Several factors have contributed to widespread use of slings, including the fact that procedures such as suspensions with Pereira needles and their variants did not pass the test of time. However, blind passage of long needles and sling traction continue to be the main steps in all techniques.

Synthetic slings have many advantages over autologous slings. The new techniques allow for performing the procedures under local anesthesia and even in an outpatient setting. They decrease postoperative pain and disability, which represents an additional advantage by reducing overall costs[1]. However, synthetic slings also involve new complications related to the tape and techniques, some of which have been shown to be potentially fatal[2,3]. A majority of the main complications are related to blind passage of needles[4]. Reduction in needle diameter decreased but did not eliminate such problems, which may occur even in the most experienced hands. In 2001, Delorme developed the trans-obturator tape (TOT) as an alternative to the TVT procedure. The TOT eliminates the risk related to perforation of retropubic space[5]. A recent study has shown both procedures to be equivalent[6].

The most common complication is bladder perforation during needle passage. Many studies have reported bladder perforation rates ranging from 1% and 15%, with a mean of 5%. The TOT procedure is associated to a decreased incidence of urethral and bladder lesions, which are reported in less than 1% of patients and mainly occur during the learning curve of the procedure[4]. Bleeding is an additional significant complication that may occur during needle passage. Bleeding in the retropubic space may be difficult to manage because exposure of the perivesical venous plexus is difficult. Caution is also required during lateral needle passage to avoid damaging major vessels (external iliac vein and artery) Symptomatic retropubic hematoma occurs in 1%-5% of patients. Initial management should be conservative, consisting of close monitoring, rest, analgesia, and prophylactic antibiotic therapy. In order to decrease major risks, use of a tension-free tape to reconstruct the urethral support by anchoring the tape to the internal obturator muscle bilaterally (at tendinous arch level) has been reported. This may prevent damage to major vessels or bowel segments.

This principle was applied one decade ago, but an unacceptable extrusion rate occurred due to a suboptimal material[7,8]. Long-term results with the arcus to arcus sling using porcine intestinal submucosa were good in 60% of cases seven years after the procedure[9]. The lack of an anchoring system and adequate tools were the main obstacles for its widespread use. The first commercial kit available was the tissue fixation system (TFS), using two polypropylene anchors and multifilament fabric. A preliminary report revealed similar cure rates and fewer complications as compared to TOT[4]. Many other devices are available. Some of them depend on tape integration for adequate fixation, and have therefore a failure rate up to 30% within the first month after surgery. Other devices use column-like fishbone fixation systems which allow for immediate fixation and good preliminary results.

Preliminary studies reported no pain, fabric exposure, or vascular or visceral complications[10]. These results are undoubtedly surprising. It should be noted, however, that even minimally invasive procedures require a learning period and failure is also a complication. What we mean by this is that these minislings may be an attractive and promising alternative to current tapes, but their good results reported should be shown to be long-lasting.

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