



Utility of ultrasound in the diagnosis and location of mid urethral slings

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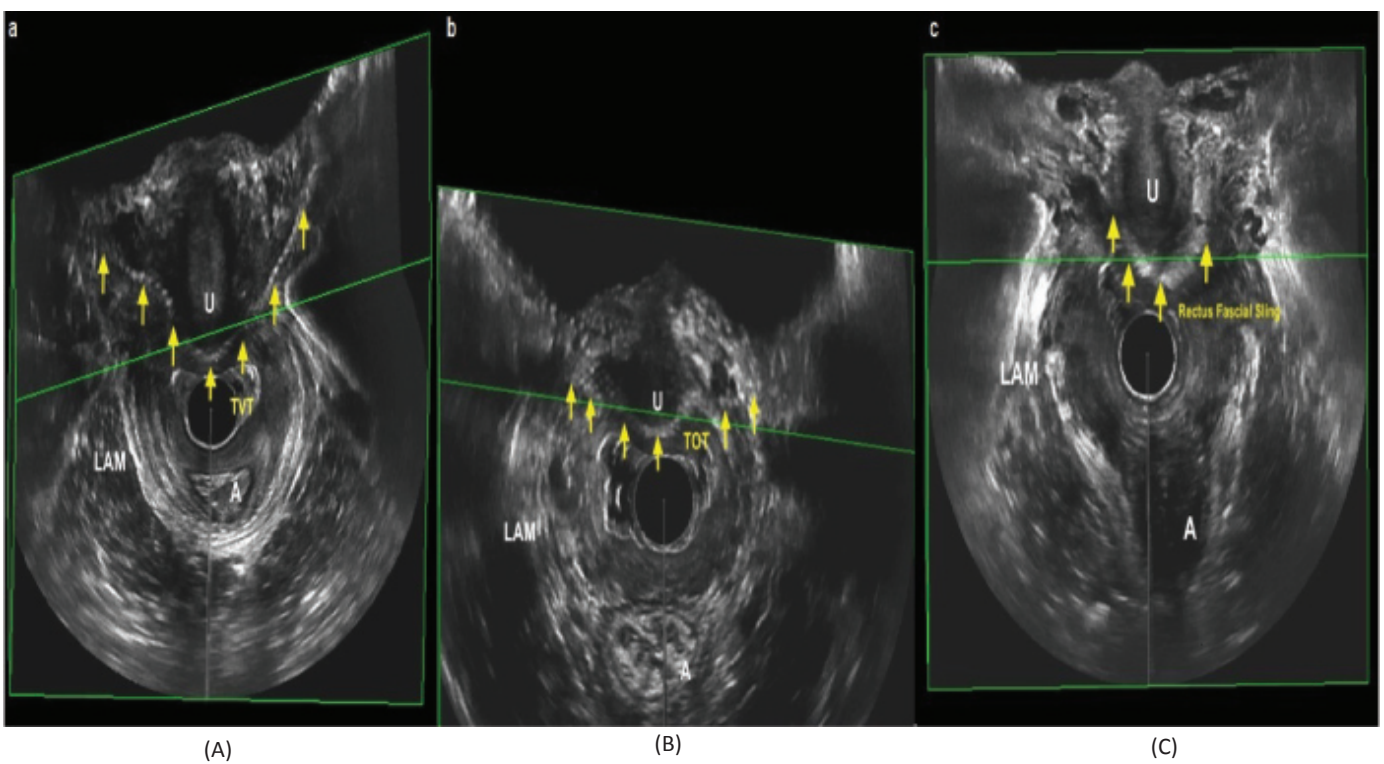
Clinical image description

There has been a resurgence in use of autologous fascial slings following the Food and Drug Administration ban on the use of synthetic mid-urethral slings for the management of stress urinary incontinence. Three-Dimensional Endovaginal Ultrasound (3D EVUS) is a validated technique that can be used to map the full distribution of synthetic mid urethral slings in real time [1]. This is due to the highly echogenic properties the polypropylene material possesses [2]. Therefore, synthetic slings typically have a distinctive honeycomb appearance due to pores within the polypropylene mesh. Connective tissue including fascia, also have an hyperechogenic, but linear appearance on ultrasound due to its high collagen fibre content [3]. However, the ultrasound appearances of autologous rectal fascial slings specifically have rarely been reported.

All images (Figure 1) were obtained using three-dimensional 3D EVUS (type t8838; 6–12 MHz, 360° rotational probe) using the Flexfocus 500 ultrasound system (BK Medical, Herlev, Denmark). Here the pelvic floor is demonstrated; showing the Levator Ani Muscle (LAM), urethra (U) and anal canal (A). The urethra is represented by an omega shaped image made of the smooth muscle and the rhabdosphincter. The hyperechoic shadow below the urethra represents the sling. The characteristic “U” appearance of a Tension-free Vaginal Tape (TVT) is demonstrated, with its arms travelling towards pubic bone (Fig 1a). Also, the “sea-gull” appearance of the Trans-Obturator Tape (TOT), with the arms running laterally towards the obturator foramen is seen (Figure 1b). The autologous fascial sling however, is seen as a thicker hyperechoic area underneath the urethra (Figure 1c). 3d EVUS provides detailed images of the slings (far superior to MRI images), thereby enabling clear mapping when complications occur and/or when slings need to be surgically removed.



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(A)

(B)

(C)

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