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Titanium coated extralight mesh (TiLOOP - TiFour) for treatment of vaginal vault prolapse: A prospective randomized study

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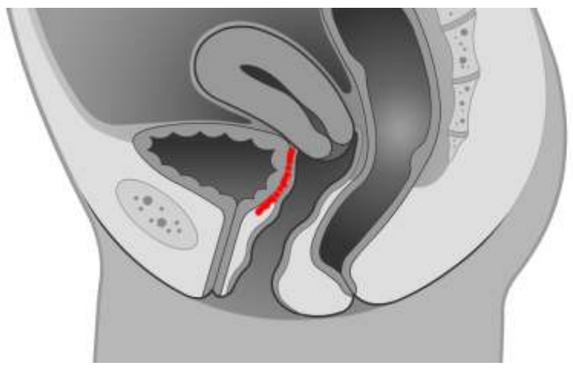
Introduction & Objectives:
To assess the clinical efficacy of TiLOOP TiFour titanium coated extralight mesh in the treatment of vaginal vault prolapse.

Material & Methods:
The study group consisted of 116 women (mean age 86.4 years) who underwent vaginal cuff prolapse surgery with TiLOOP TiFour titanized extralight meshes between September 2007 and February 2009. 87 patients had vaginal cuff prolapse POP-Q stage IV and 29 patients--POP-Q stage III with a subjective feeling of prolapse. 67 patients were diagnosed with stress urinary incontinence and 32 with mixed incontinence. Bladder emptying difficultis were present in 59 cases and chronic infection in 59 patients as well.

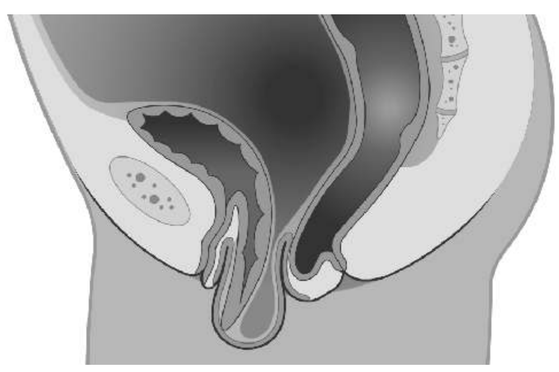
Results:
109 patients which accounted for 93.9% of the total study group were available for follow up visits after 6 months. 8 patients (7.4%) had recurrence of cystocoele but to a much lesser extent than POP-Q stage II. This gives an efficacy of 92.6% in terms of anatomical restoration of the prolapse. Most patients were completely satisfied with the surgical outcome. These rates have been found to be superior when compared to similar studies addressing the reconstruction rates of uncoated polypropylene meshes. However, the following complications were encountered among our study group:
1 x Retrobubic Hematoma (managed conservatively)
6 x Post operative stress incontinence or de-novo urge syndrome
1 x Severe pelvic pain causing difficulty with walking and moving
3 x Dyspareunia
4 x Vaginal Erosion of the material

Conclusions:
We can conclude from this study that titanium coated extralight meshes (TiLOOP - TiFour) offer superior outcomes for reconstructive treatment of vaginal vault prolapse. Secondly, at the six month follow up period, there are far less reports of complications such as erosions, dyspareunia and pain when comparing titanium coated meshes to regular uncoated meshes. Never the less, a longer follow up period is recommended for better assessment.

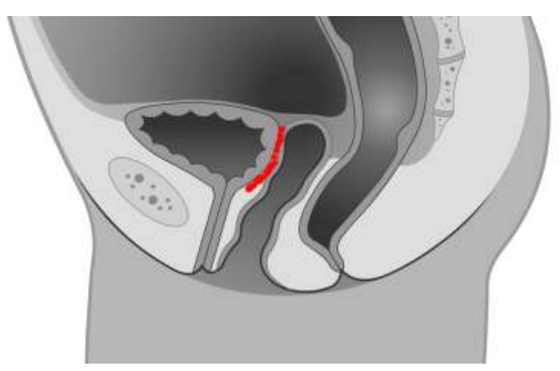
Anterior vaginal vault prolapse with intact uterus



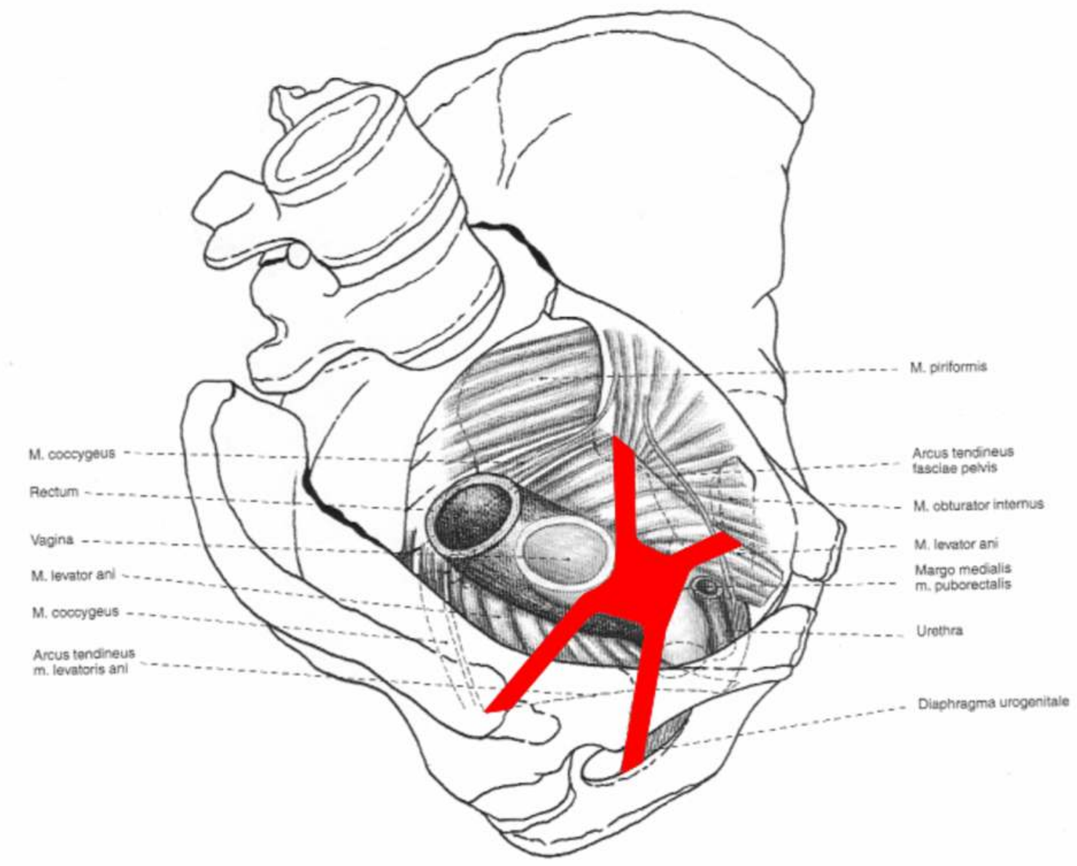
Mesh position in relation to the bladderneck and bladder



Post hysterectomy anterior vaginal vault prolapse

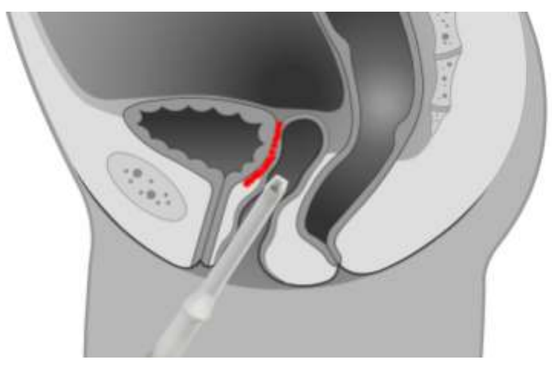


Mesh position in relation to the bladderneck and bladder

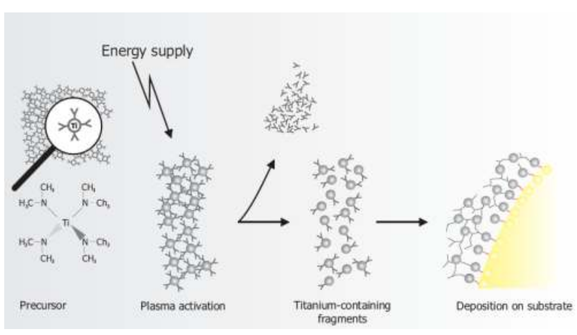


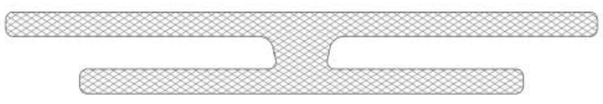
Mesh position in relation to the pelvis and bladderneck

Follow up:



- Introitus and perineal ultrasound
- Clinical examination
- Patient questionaire





Material Properties:
laser-cut titanized monofile poly-propylene mesh, pore size = 1 mm, tensile strength = 16 N/cm