ANCHORSURE - ANCHORING SYSTEM:
Outcomes and Safety Profile in Vaginal Reconstructive Surgery

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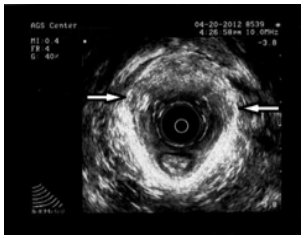
Introduction and Objectives

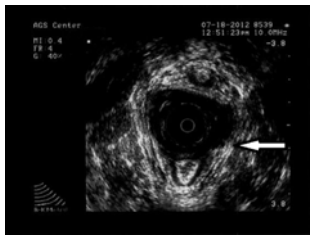
Women with Levator Ani avulsion not only have higher incidence of pelvic organs prolapse (POP) [1] but also have higher rate of recurrence of POP and failure of native tissue repair of POP[2,3].Use of synthetic grafts have been suggested to improve outcomes of surgical correction of POP [4]. Aim of this study was to evaluate results of AnchorSure – Tissue-anchoring system (Neomedic International) for repair of POP in women with Levator Ani avulsion. AnchorSure is a versatile tissue anchoring system (Neomedic International) allowing the surgeon utilize synthetic or biologic grafts as well as to modify the shape and the size of the graft to patients pelvic dimensions providing excellent support of all 3 pelvic compartments at all 3 levels of support.

Materials and Methods

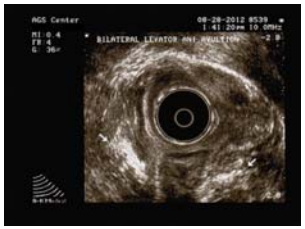
Inclusion criteria for mesh-augmented repair was unilateral or bilateral avulsion of Levator Ani and/or ballooning of Levator Ani. All patients were evaluated by physical examination (PE) and vaginal 360º ultrasound prior to surgery and PE only, thereafter. POP-Q stage, compartment failure and avulsion of Levator Ani were established.



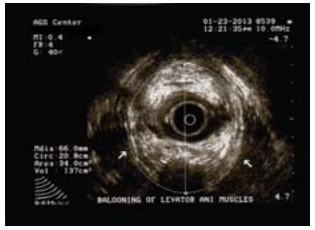
Intact LA bilaterally



Avulsion of LA on the left



Bilateral avulsion of LA



Ballooning of LA

300 patients meeting criteria for mesh augmented repair have been operated in between 2010 and 2012 with follow up to 48 months. Monofilament Polypropylene mesh was used and tailored in trapezoid shape with 6 arms (3 on each side), just as SureLift pelvic repair system. 3 different meshes were used. Prolene-Soft™, Novasilk™ and Restorelle™. AnchorSure - tissue anchoring system was used to attach proximal arms to the sacro-spinous ligaments. Middle arms were brought through arcus tendineous at the level of ischial spines and distal arms at the insertion of arcus tendineous into inner portion of pubic bone. Both middle and distal arms were brought out through obturator foramen. Apical support was provided by utero-sacral ligaments colpopexy.

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The same mesh configuration is used for anterior and posterior compartment augmentation but middle and distal arms have to be excised along red lines before placement in the posterior compartment.

Results

Table 1: Failure of support prior and after surgery by compartment

All Compartments		Anterior and Apical		Anterior Only		Anterior and Posterior		Apical Only		Posterior and Apical		Posterior only	
Prior to Surgery	Post-surgical outcome	Prior to Surgery	Post-surgical outcome	Prior to Surgery	Post-surgical outcome	Prior to Surgery	Post-surgical outcome	Prior to Surgery	Post-surgical outcome	Prior to Surgery	Post-surgical outcome	Prior to Surgery	Post-surgical outcome
39/13%	0%	141/47%	0	48/16%	6/2%	27/9%	0	15/5%	0	21/7%	0	9/3%	3/1%

Table 2: Prolapse stage prior and after surgery by compartment

Prolapse Stage	All Compartments		Anterior and Apical		Anterior Only		Anterior and Posterior		Apical Only		Posterior and Apical		Posterior only	
	Prior to Surgery	Post-surgical outcome	Prior to Surgery	Post-surgical outcome	Prior to Surgery	Post-surgical outcome	Prior to Surgery	Post-surgical outcome	Prior to Surgery	Post-surgical outcome	Prior to Surgery	Post-surgical outcome	Prior to Surgery	Post-surgical outcome
Stage 2	20/6.6%	0/0	41/13.6%	0/0	8/2.6%	0/0	7/3.3%	0/0	20/6.6%	0/0	8/2.6%	0/0	3/1%	1/0.3%
Stage 3	10/3.3%	0/0	100/30%	0/0	40/13.3%	6/2%	20/6.6%	0/0	10/3.3%	0/0	13/4.3%	0/0	6/2%	2/0.6%
Stage 4	9/3%	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0

Table 2: Complications

Blood Transfusions	Hematoma of Anterior Wall	Hematoma of Posterior Wall	Bladder Injury	Bowel Injury	Ureteral injury	Chronic Pelvic Pain	De-Novo DI	De-Novo SUI	De-Novo Obstructive Defecation	Post-op Dyspareunia	Early Mesh Erosion <8 weeks	Late Mesh Erosion >8 weeks	Infection/ Abscess
2/0.6%	3/1%	5/1.6%	0/0	0/0	0/0	1/0.3%	0	5/1.6%	0/0	3/1%	2/0.6	1/0.3%	2/0.6%

Interpretation of result

Surgical outcomes were consistent with high cure rate for all types of POP presented in different compartments as well as all stages of POP, with very low complication rate.

Conclusions

AnchorSure – Tissue-anchoring system (Neomedic International) provides safe and effective repair of genital prolapse in patient population with very high risk of failure without use of graft augmentation. Versatility of the AnchorSure allow adjusting synthetic or biological graft according to the shape and size of the pelvis with very small risk to compromise anatomical or functional results.

References

1. Dietz H, Simpson J. Levator trauma is associated with pelvic organ prolapse. BJOG 2008;115:979–984
2. H. P. Dietz, V. Chantarasorn and K. L. Shek, Levator avulsion is a risk factor for cystocele recurrence: Ultrasound Obstet Gynecol 2010; 36: 76–80
3. Mirjam Weemhoff et al: Avulsion of puborectalis muscle and other risk factors for cystocele recurrence: a 2-year follow-up study; Int Urogynecol J. 2012 January; 23(1): 65-71
4. Julian T. The efficacy of Marlex mesh in the repair of severe, recurrent prolapse of the anterior midvaginal wall. Am J Obstet Gynecol 1996;175:1472-5