

The comparison of three different surgery kits in patients with urinary stress incontinence

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Abstract

This study was to evaluate the three system of sling surgery and further compared the outcomes post-operation. We recruited patients from single medical center, since July 01, 2015 to June 30, 2018. We randomize patients into three different trial group, sling surgery with Solyx, Ophira or Needless. We included patients with severe stress urinary incontinence. The primary outcome was cure rate after half a year follow. The secondary outcome was postoperative complications. Our study showed that three kit have similar cure rate. However, none anchor kit system have less complications after six months followed-up.

Introduction

The prevalence of urinary incontinence in women aged more than 60 years old was 29.8%, which has drawn attention recently. Single incision sling surgery is the mainstream for surgical intervention of urinary stress incontinence. However, there are no systemic trial to compare sling surgery with different kits. Therefore, the aim of this study was to evaluate the three system of sling surgery and further compared the outcomes post-operation.

Methods and Materials

- **Study design and patients enrollment**
We recruited patients from single medical center, since July 01, 2015 to June 30, 2018. We randomize patients into three different trial group, sling surgery with Solyx, Ophira or Needless. We included patients with severe stress urinary incontinence. In addition, we excluded patients' with mixed urinary incontinence, overactive bladder or pad test less than 10 gram.
- **Sling system Solyx™ SIS System**
The Solyx sling (Boston Scientific Corp; Natick, MA, USA) contains nonabsorbable polypropylene mesh and mesh carrier. It is 9 cm in length, which is available to place the mesh in the obturator muscle tissue, but not perforate retropubic space.
- **Ophira**
The Ophira mini-sling system (Promedon; Cordoba, Argentina) contains anchors and low-tension tape. It is placed to obturator internus muscles bilaterally.
- **Contasure-Needleless System**
The Contasure-Needleless System (Neomedic International) contains mesh without anchor. We use surgical forceps to place the mesh through a single vaginal incision at the internal obturator muscle.
- **Results**
The primary outcome was cure rate after half a year follow. The secondary outcome was postoperative complications.
- **Statistical analysis**
The analysis was performed using the Student's T-test, and univariate logistic regression. Analyses were performed with the use of SAS statistical software, version 9.2 (SAS Institute). The significant level was 0.05.
- **Ethical Considerations**
This study was approved by the Institutional Review Board of our hospital.

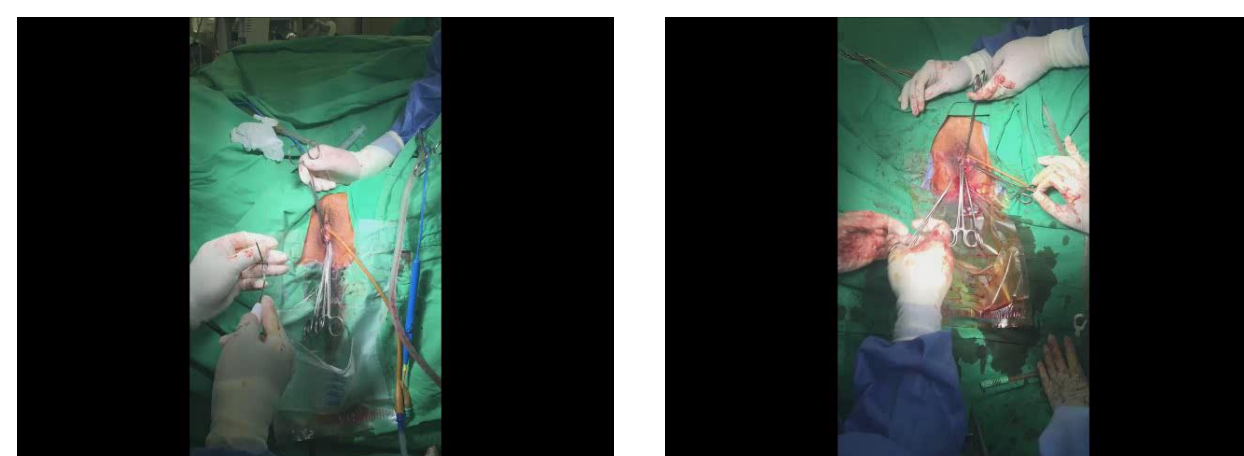
Results

Table 1 demonstrated the demographic data in patients underwent sling surgery with different kits. We found that Cure rate after one-year follow up and patient complain during first visit seems that anchor kit system is better than needleless system. However, VD and de novo OAB are not seen in needleless system.

Table.1 Comparison of three different kits in single incision sling surgery

	Anchor Group		Non-anchor
	Solyx	Ophira	Needleless
Number	58	30	30
Age	50-75 (64)	48-69 (60)	51-77 (61)
De novo overactive bladder	3	1	0
Cure rate	97%	95%	89%
Postoperative leaking	0	0	7
Voiding difficulty	2	1	0

Cure rate, for the one-year follow-up, Voiding difficulty, for the six-months follow-up



Discussion

Our study showed that three kit have similar cure rate. However, none anchor kit system have less complications after six months followed-up. This is the first study to compare these three different kits in sling surgery. We found that none anchor kit system may result in postoperative urine leaking after visit, but it would not cause difficulty in voiding. Tissue regeneration plays an important role in this finding. One research established that an appropriate level of post-implantation acute inflammation is important to precipitate moderate fibrosis. It strengthens the power of mesh.

Conclusions

- Initial results showed sling kit with anchor fix will prone to be VD instead Needless kit have obviously urine leak out but subsided after 6 months.
- It is mandatory to monitor more population and longer timeframe to get accurate information

References

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