NATIVE TISSUE SURGERY IN THE TREATMENT OF SUI

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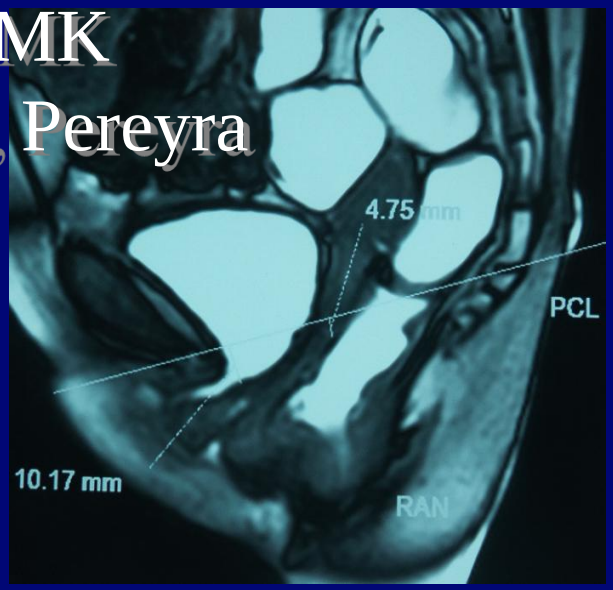
1. INTRODUCTION.

- **Stress Urinary Incontinence (SUI):**
  The most popular and also initial symptom of female anterior vaginal wall prolapse.
- **The two main causes: bladder-neck/ urethral hypermobitility and intrinsic sphincter defect (ISD).**
- **Diagnosis: physical examination + urodynamic tests**
  → MRI Defecography

- Treatment: Medicine - Surgery (many produres).
  +Bladder-neck fixation: Kelly (1914), MMK (1955), Burch (1961), Richardson (1976), Pereyra (1978), Raz (1981)…
  + Midurethral sling (**TVT, TOT**)

  + Native tissue surgery



*** OUTCOME EVALUATION:**

- Good: the patient is quite satisfied.
- Medium: patients satisfied but occasional small volume urinary incontinence when exertion, improve symptoms better than before surgery.
- Poor: patients are not satisfied with the results and must be reoperated.

*** OBJECTIVES:**

- Determine the MRI Defecography of bladder neck - urethral prolapse.
- The long-term outcomes of native tissue procedure (autograft) in the management of SUI.

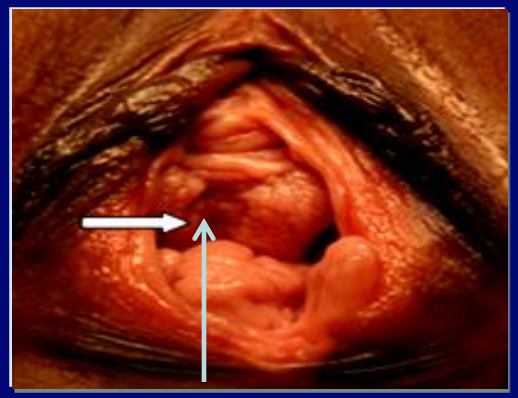
2. METHODS:

- Study design: Prospective, case series description.
- Duration: 1/2012 - 12/2016 (60 months).
- N = 105 Female; Average Age: 55.7 (21 - 86).
- History of vaginal deliveries: 3.5 times (1 - 9).
- Diagnosis: History - Clinical - MRI Defecography
-Treatment: Anterior vaginal wall native tissue procedure.
- Mean follow-up time: 36 months (30 - 42); 105/164 cases.

* DIAGNOSE

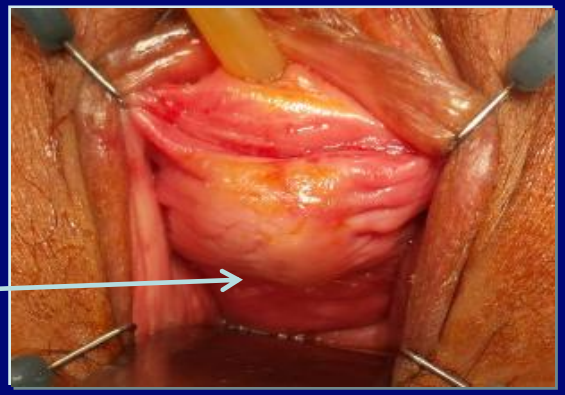
- OUT SHAPE OF THE PROXIMAL URETHRA.
- STAMEY CLASSIFICATION: GRADE I,II,III (SLIGHT, MEDIUM, SERIOUS)

ANATOMY DEFECT



MID- URETHRAL CLEFT

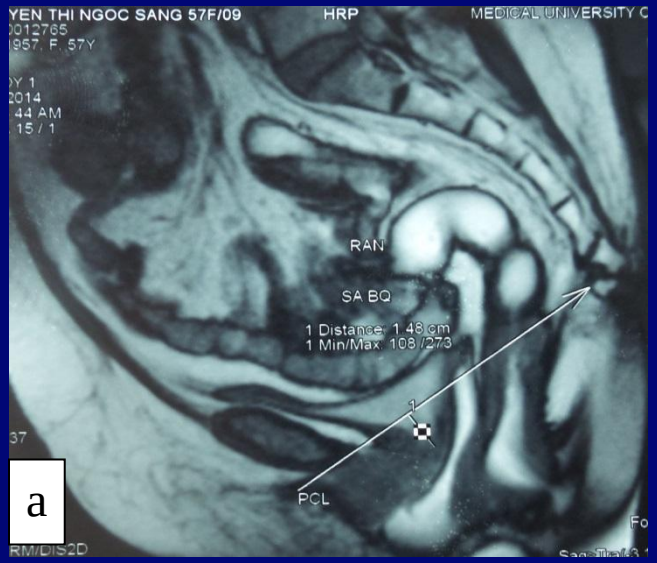
BLADDER NECT-
URETHRAL PROLAPSE

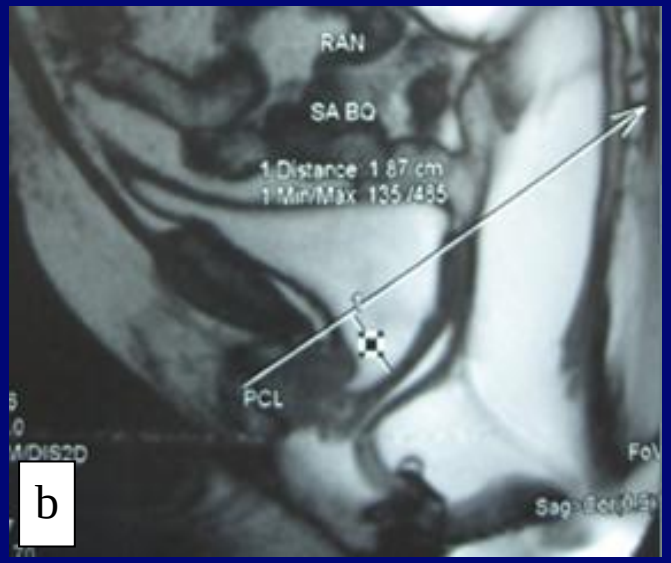


POSTERIOR
URETHRAL DEFECT

SUI III

MRI DEFECOGRAPHY CLASSIFICATION OF SUI



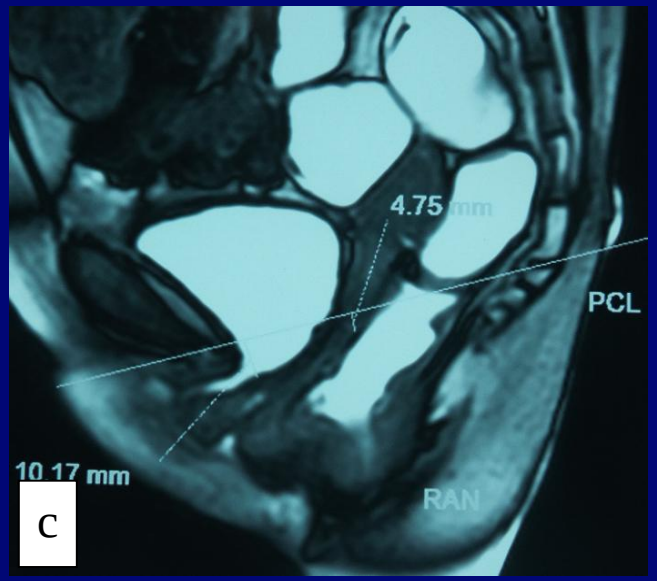


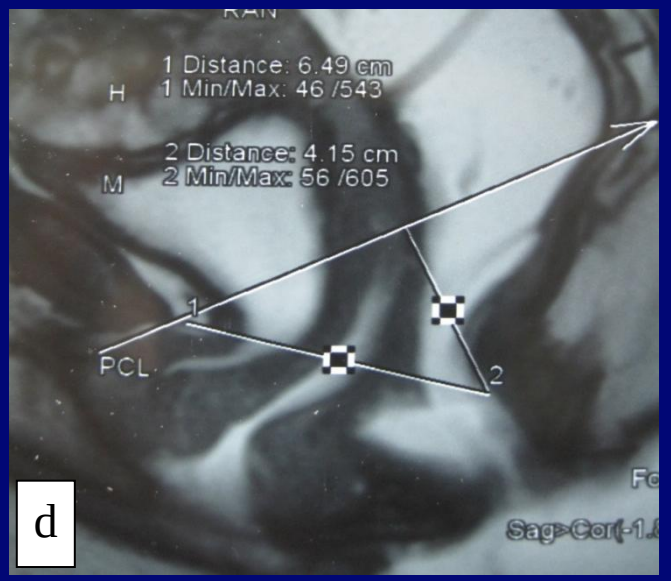
- ***(a, b):*** *Grade 1*

Funnel hook of bladder neck is under PCL

- ***(c)****: Grade 2*

The urethra flow below the pubis





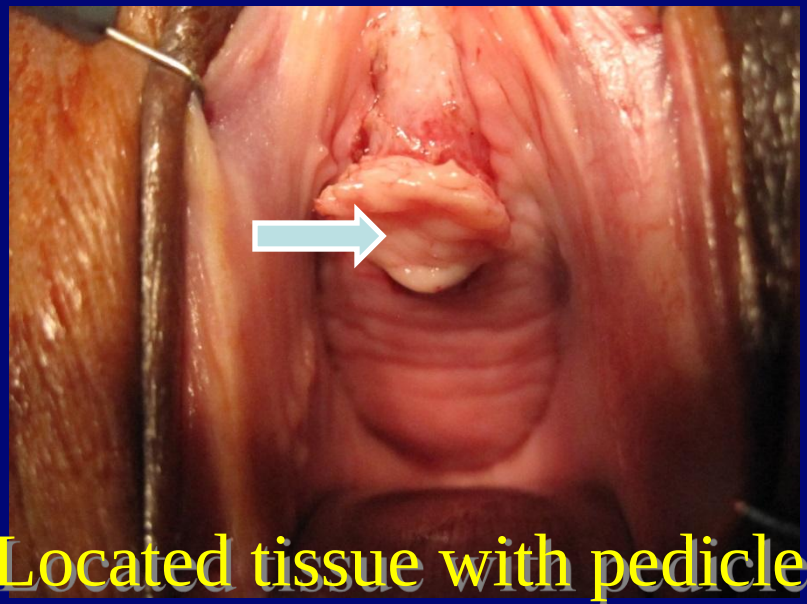
- ***(d)****: Grade 3*

The urethra flow exceeds the pubis

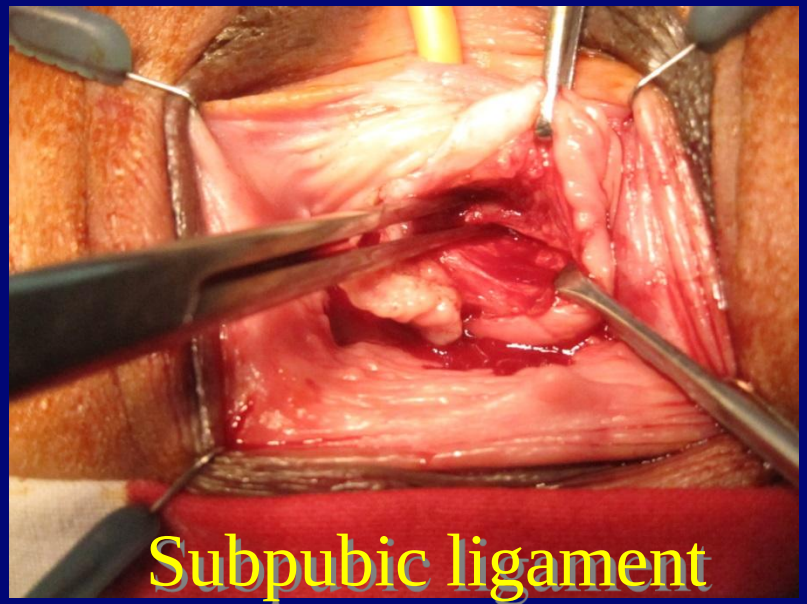
* STAMEY & DYNAMIC MRI CLASSIFICATION OF SUI

Stamey	Grade I	Grade II	Grade III
MRI Defecography (Bladder neck-Urethra prolapse)	Grade I (slight)	Grade II (medium)	Grade III (serious)
Patients %	N %	N %	N %
105 100	67 63,8	33 31,4	05 4,8

NATIVE TISSUE SURGERY

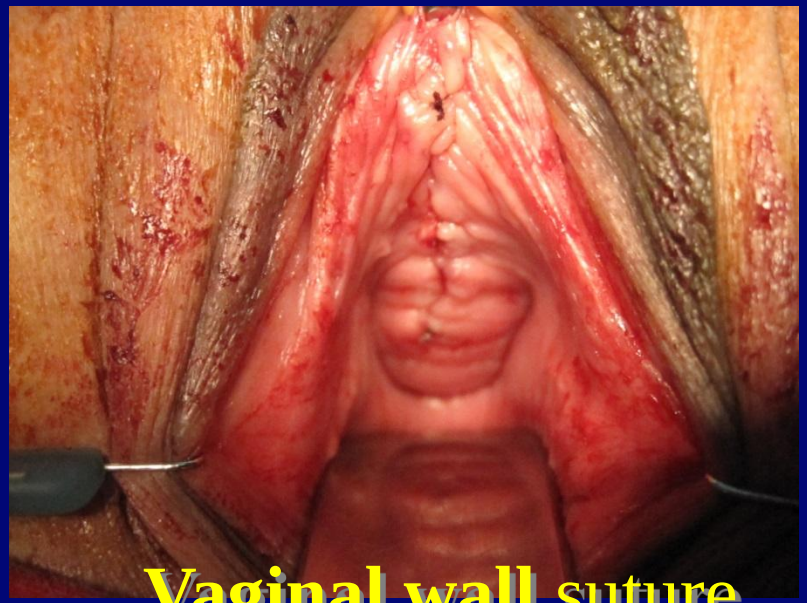


Located tissue with pedicle



Subpubic ligament

Fixation of located tissue



Vaginal wall suture

3. RESULTS

* *EARLY RESULTS*

- Mean Operating time: 22 minutes (20 - 26)
- Mean Blood loss : 10 ml (5 - 20)
- Complications during and after surgery: 0 case.
- Infections, bleeding, pain, bladder perforation:0 case.
- Urinary retention: 9/105 cases (8.57%)

-Hospitalization: depending on other pelvic operations (37/105 cases of native tissue surgery: 1 day only)

* LATE COMPLICATIONS

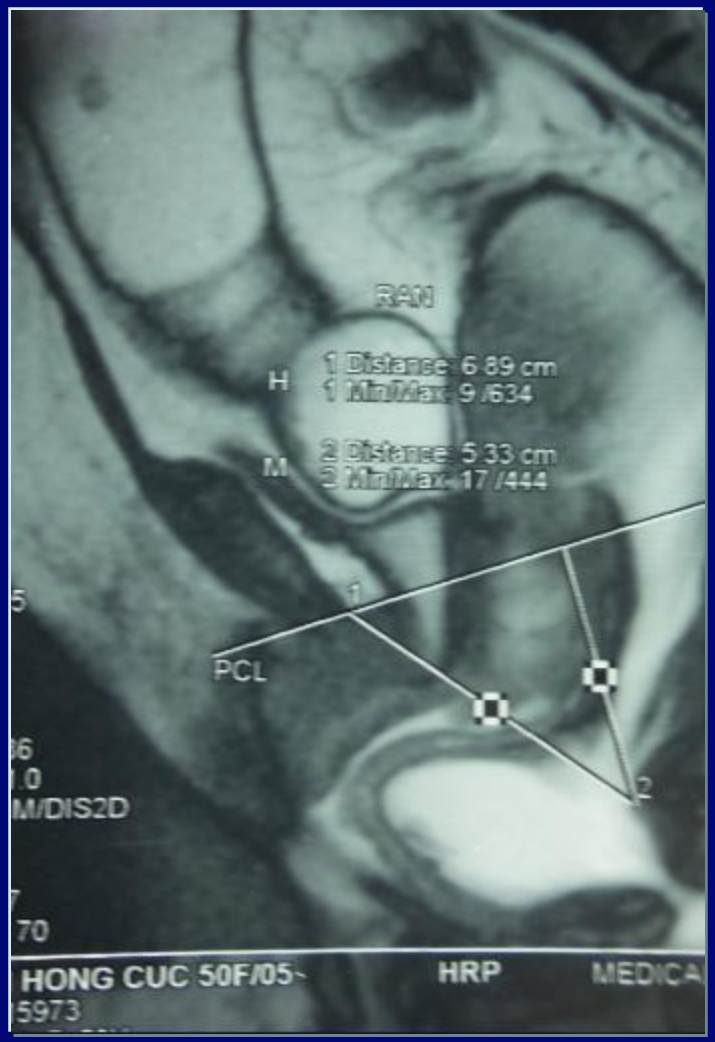
Mesh Erosin: 0 case.
Recurrence after 3 months: 3 cases re-operation.

* CLINICAL RESULTS (medium time)

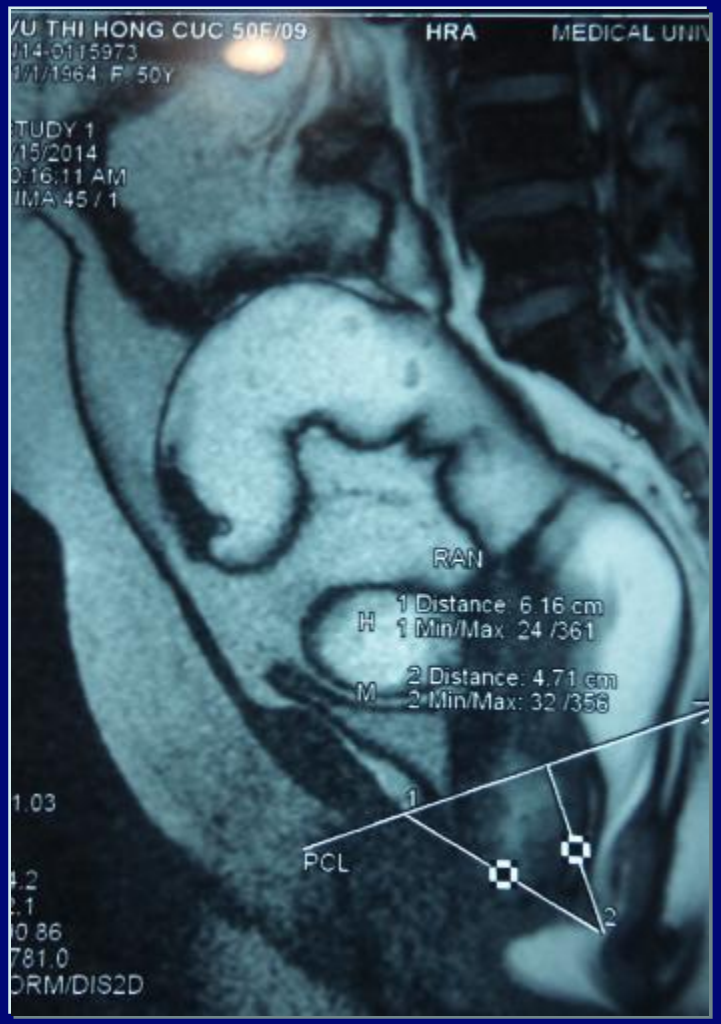
Mean time follow-up: 30 months (20 - 42)

- Good: 91/105 TH (86,66%)
- Medium: 11/105 TH (10,48%)
- Poor: 3/105 TH (02,86%)

MRI DEFECOGRAPHY



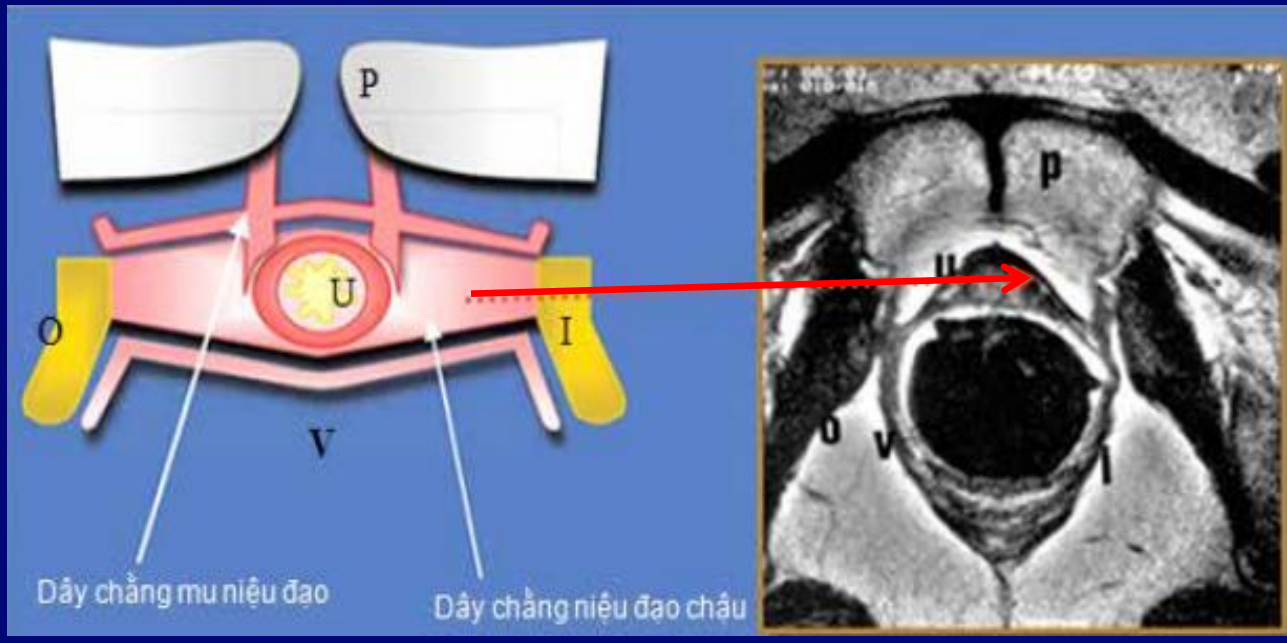
Before operation



After operation 3 months

4. DISCUSSION: * SITE ANATOMY DEFECT:

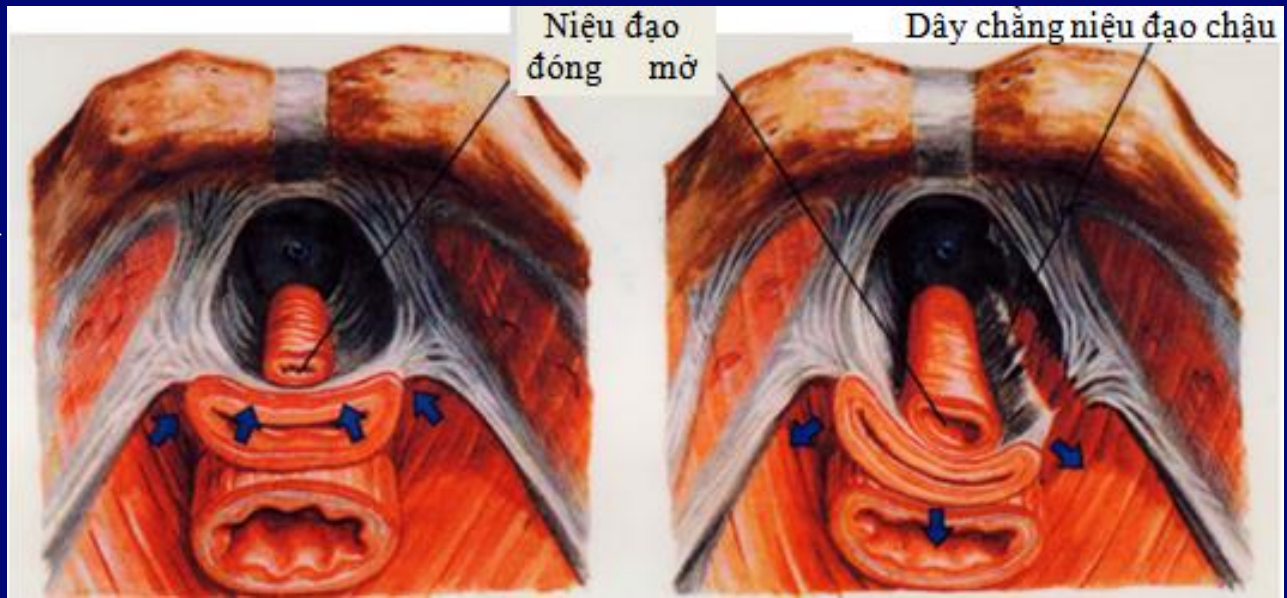
Pubo urethral Ligament (midurethra)



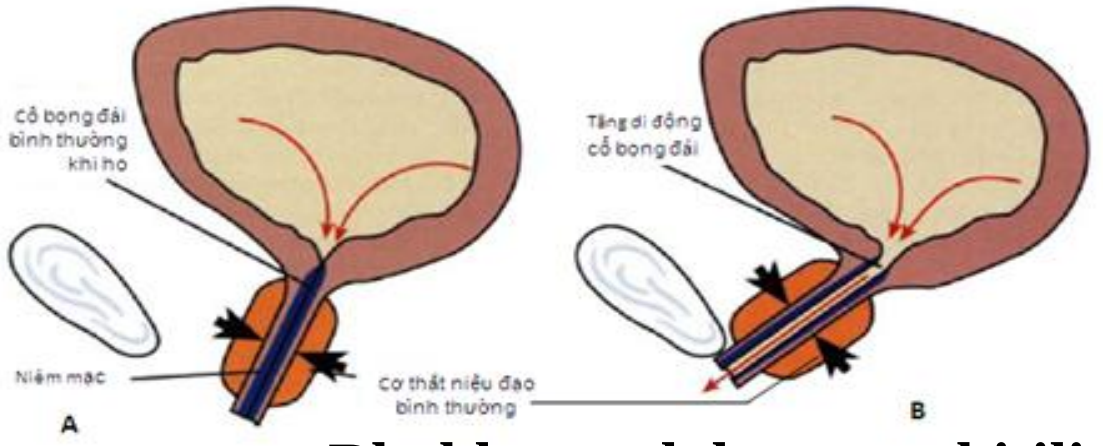
Pelvi urethral Ligament

→ Vaginal hammock

(Bladder neck-proximal urethra)



* PATHOGENESIS



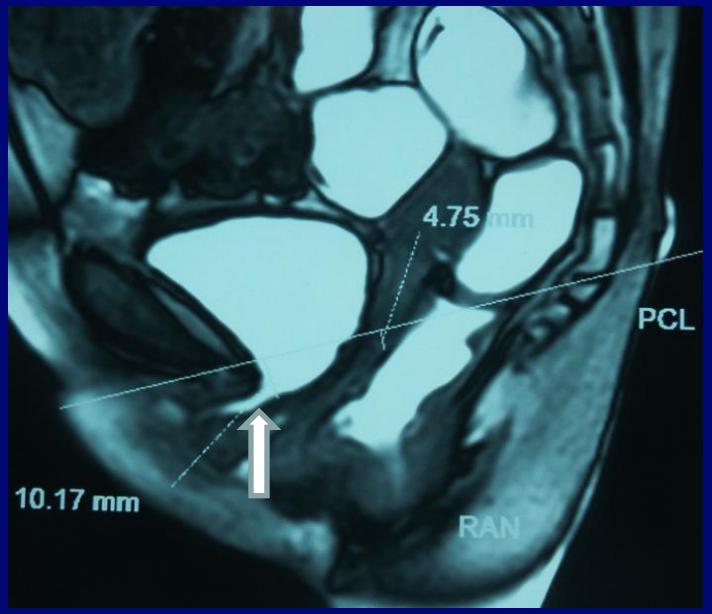
Bladder-neck hypermobitility

intrinsic sphincter defect (ISD).

Source: Anorectal and colonic diseases, 3rd ed. (2010)

Voiding cysturethrography

MRI DEFECOGRAPHY



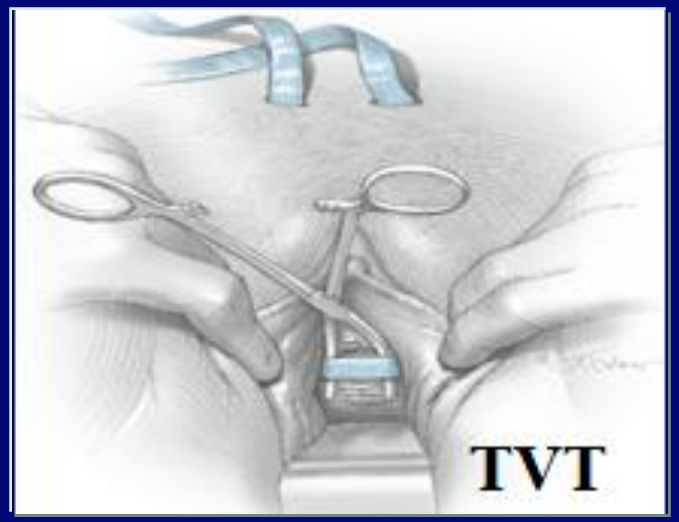
* MESH SURGERY:

1) BIOMATERIAL MESHES:

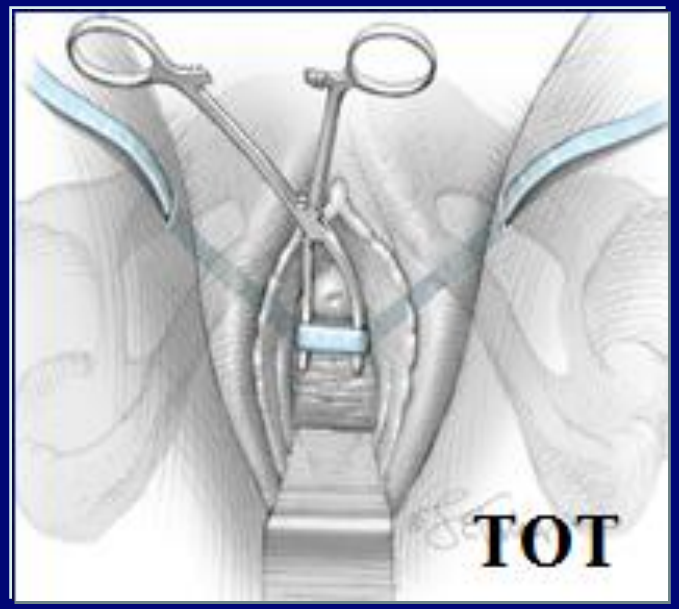
- *AUTOGRAFT : AUTOLOGOUS / NATIVE TISSUE*
- *XENOGRAFT : REGENERATIVE SURGERY*
- *HETEROGRAFT*

2) SYNTHETIC MESHES

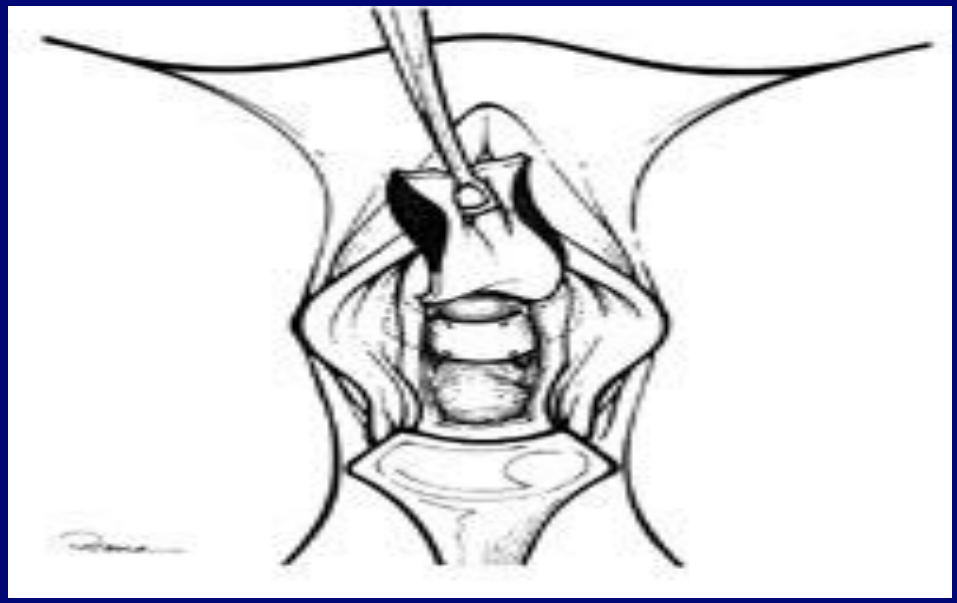
- *POLYPROPYLENE TYPE I :* **TVT, TOT**
- *POLYVINYLIDENE FLUORIDE (PVDF)*



- MiniArc (AMS)
- TVT Secure (Gynecare)



MIDURETHRAL SLING



Minimal Vaginal Tape (MVT)

- (J. Mouchel, 2007)

LONGTERM RESULTS IN TREATMENT OF SUI.

1. Burch colposuspension: 70% (Dean et al, 2006)
2. Needle bladder neck suspension → No longer used.
3. Pubovaginal sling (autologous fascia): No longer used.
4. Midurethral slings (prolene mesh) :

   -TVT : > 50.000 cases (France) (1996 – 2007): 90 %.

   50 cases (ULMSTEN): 90%

   - TOT: Nguyễn Ngọc Tiến (FV Hospital) 97,2% /1 year..

   France Urology Society (1999): 78 -96% .

   ISD: 82-88%

   - Mesh Erosin TVT and TOT # 5 %

5. NATIVE TISSUE SURGERY (medium time).

   - Good: 86,66%. Medium: 10,48%. Poor: 2,86%

Reclassification of Urogynecologic Surgical Mesh Instrumentation

Food and Drug Administration
Executive Summary

Gastroenterology-Urology Medical Devices Advisory Committee Panel

February 26, 2016

Mesh Instrumentation." In this proposed order, the FDA proposed to reclassify (1) surgical mesh indicated for transvaginal POP repair from class II to class III and (2) urogynecologic surgical mesh instrumentation from class I to class II. The FDA also proposed to develop new regulations for these devices under Part 884, Obstetrical and Gynecological Devices.

NATIVE TISSUE SURGERY IN TREATMENT OF SUI

* ADVANTAGES:

- Repair anatomy defect to restore physologic function.
- Less invasive, minimal blood loss, short surgery time.
- Ambulatory surgery, soon recovery, low fee.
- Less complication during and after surgery (Mesh ejection/ Erosion).
- Good results 86.66%, average 10.48%

* DISADVANTAGES:

- Research method: RCT.
- Further follow- up.
- Dynamic MRI post- operation (21,9%).

CONCLUSION

- Dynamic MRI of the bladder neck- urethra prolapse: reliable diagnostic and classification of SUI.

- The method of native tissue surgery (repair anterior vaginal wall for treating SUI): good results 86.66%, average 10.48%.

- A safe, low cost new procedure for SUI treatment.

- The study should be continued (RCT, MRI,...)


XIN CHÂN THÀNH CÁM ƠN !