

Why it is necessary to include ultrasonography scanning in Urogynecology practice?

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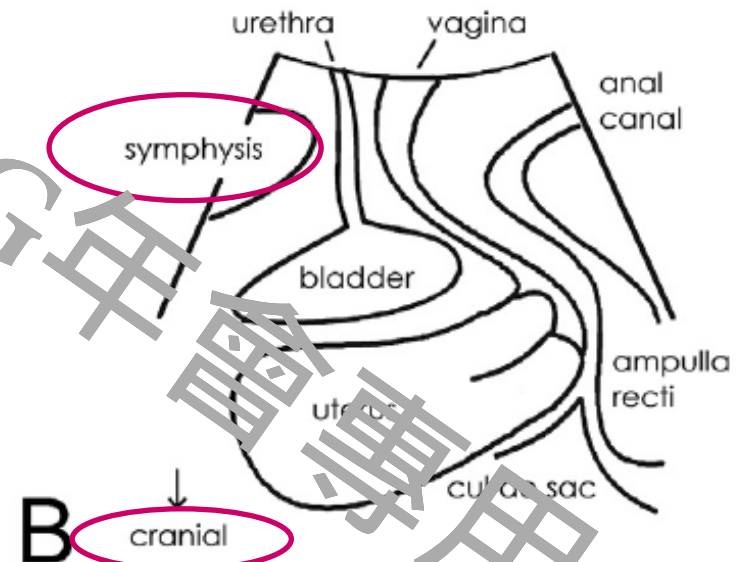
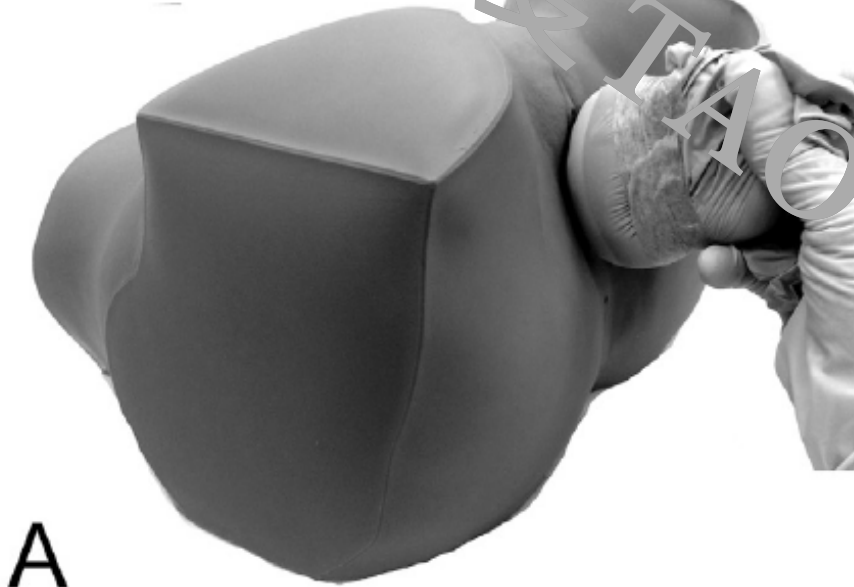
“Ideal Adjunct”

- Growing literature validating the role of ultrasound in the evaluation of **pelvic floor dysfunction** in conjunction with clinical assessment
- An appropriate **first-line imaging tool**
 - Abdominal Radiology 2021;46:1295
 - Abdominal Radiology 2021;46:1414

Translabial/perineal ultrasound

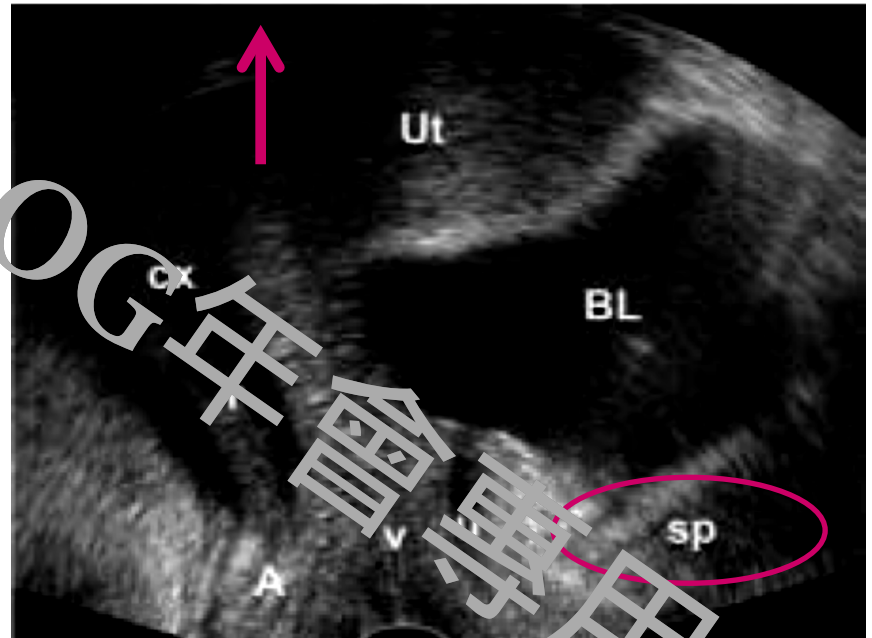
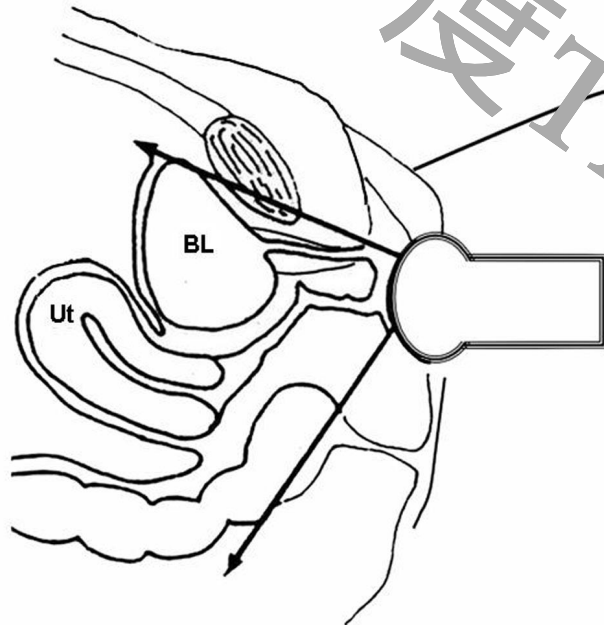
A 3.5 – 6 MHz curved array transducer placed on the perineum

Dietz HP. Curr Opin Obstet Gynecol 2020;32:431



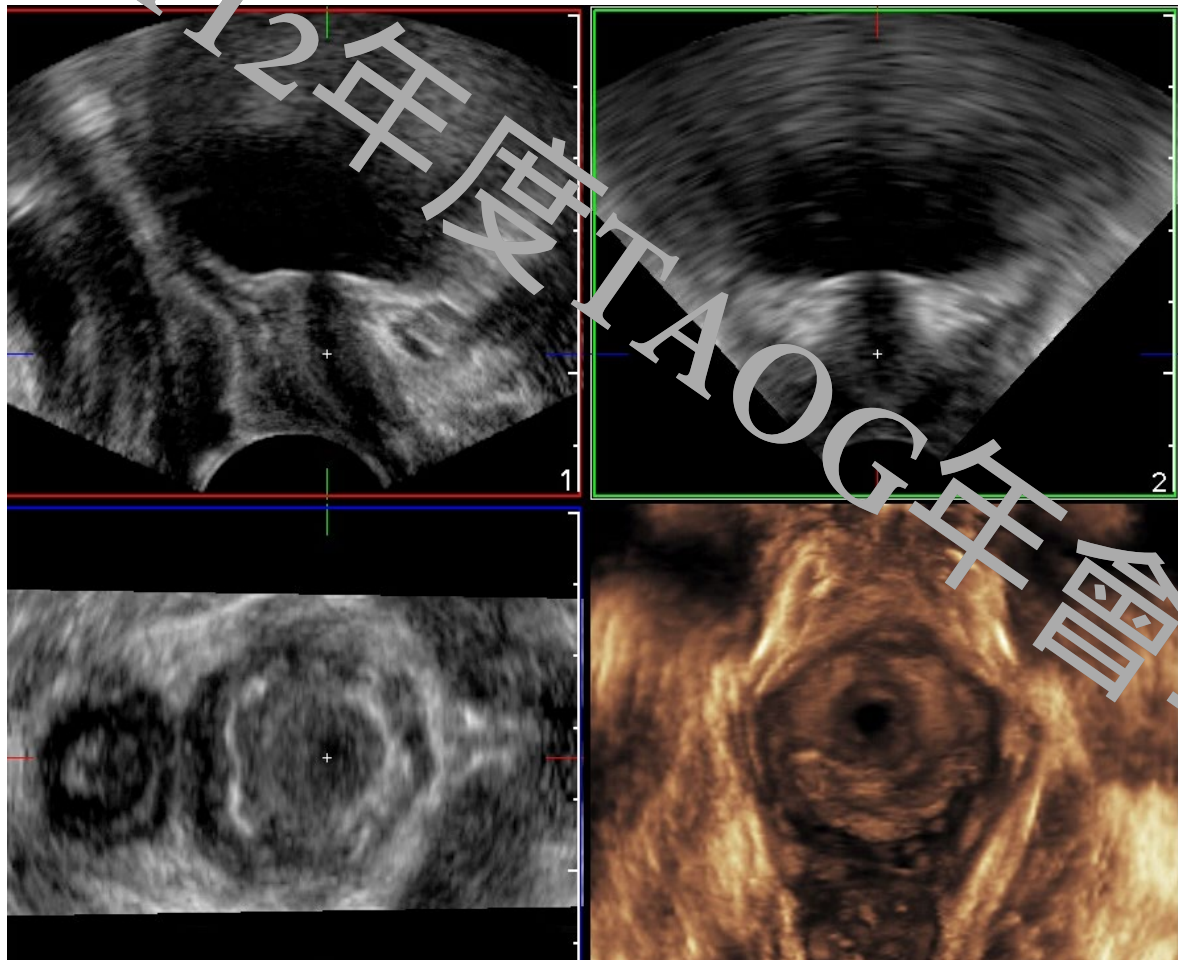
Introital ultrasound

A 5 – 7.5 MHz sector endovaginal probe placed between the labia minora just underneath the external urethral orifice



Less pressure on the perineum, quick transition after transvaginal ultrasound for uterus and ovaries, less acoustic shadow of the pubic symphysis...

3/4-Dimensional imaging



Panel 1:

Sagittal plane

Panel 2:

Frontal plane

Panel 3:

Axial plane

Panel 4:

Rendered

image

Clinical evaluation

Lower urinary tract symptoms

Screening of genital organ

- Uterine tumor
- Adnexal tumor
- **Vaginal tumor**

Voiding difficulty associated with a Müllerian cyst of the vagina



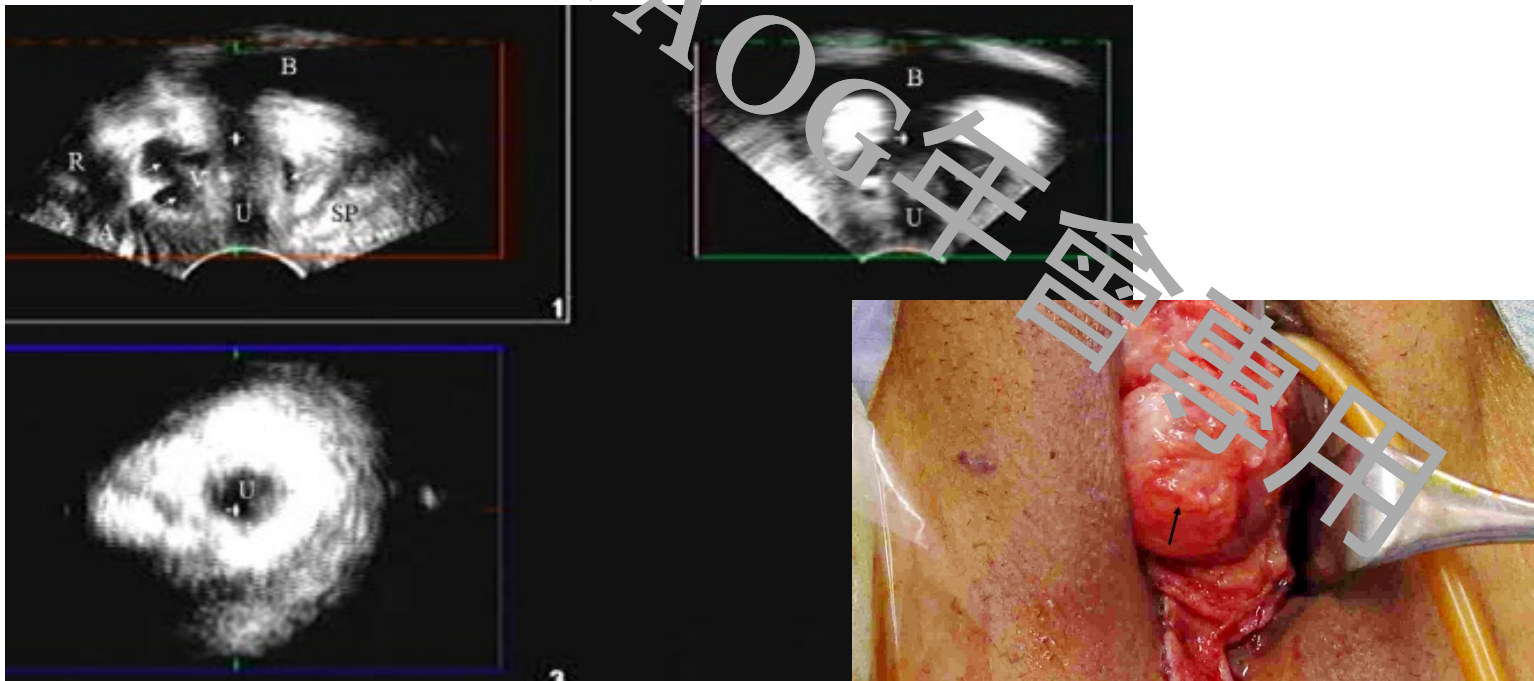
Bladder lesions

- Bladder tumor
- Taiwanese J Obstet Gynecol
2004;43:125



Urethral lesions

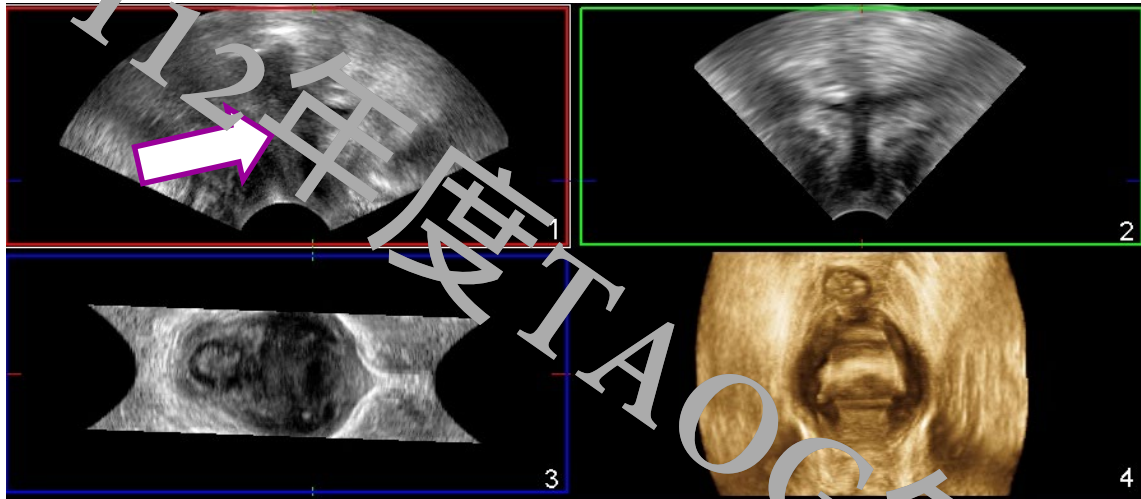
- Para-urethral lesions
- **Urethral diverticulum**
 - Taiwanese J Obstet Gynecol 2022;61:1058



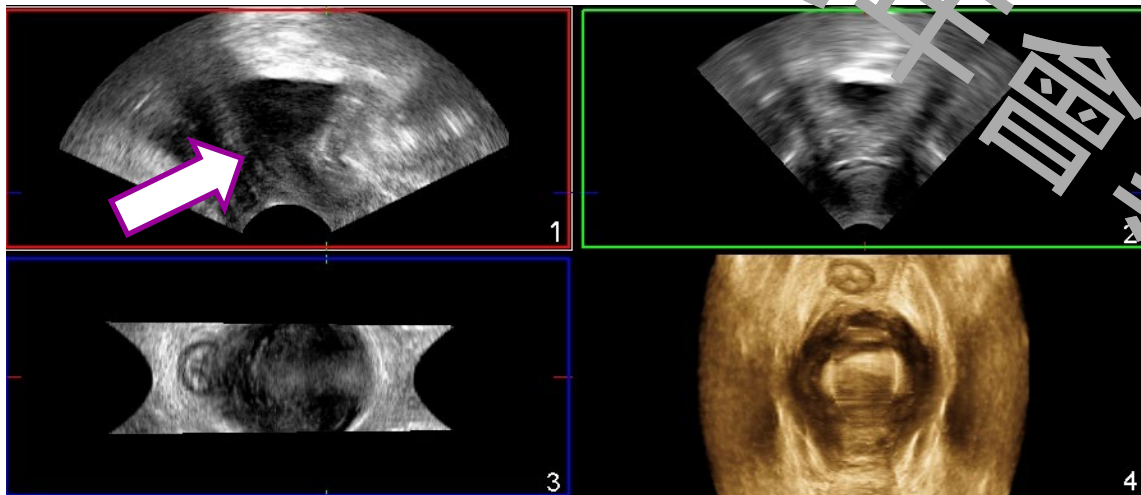
Clinical evaluation

Urinary incontinence

Urethral hypermobility



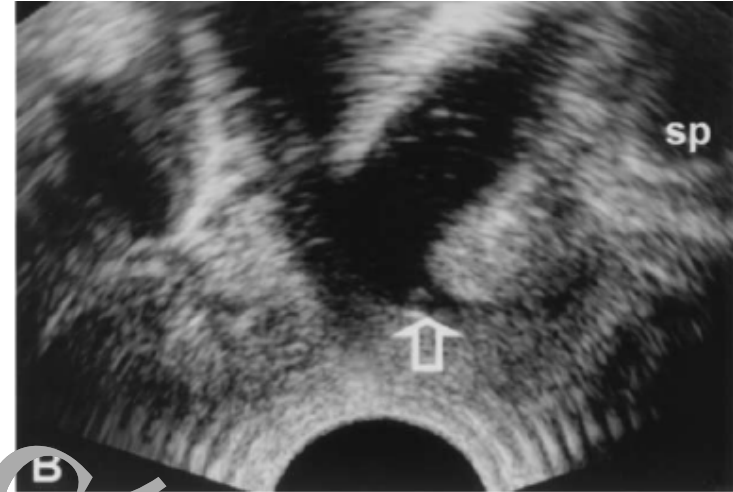
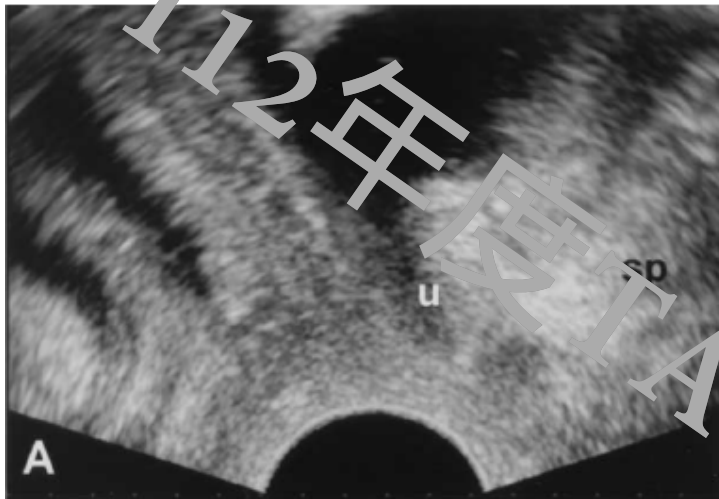
Rest



Straining

Ultrasound
Obstet
Gynecol
2005;25:289

Bladder neck funneling



Potential coexistence of poor anatomic support and an **intrinsic sphincter defect**, which requires dynamic investigation to verify

The **high negative predictive value** of bladder neck funneling is useful in excluding the presence of low leak point pressure.

Urology 2003;61:936

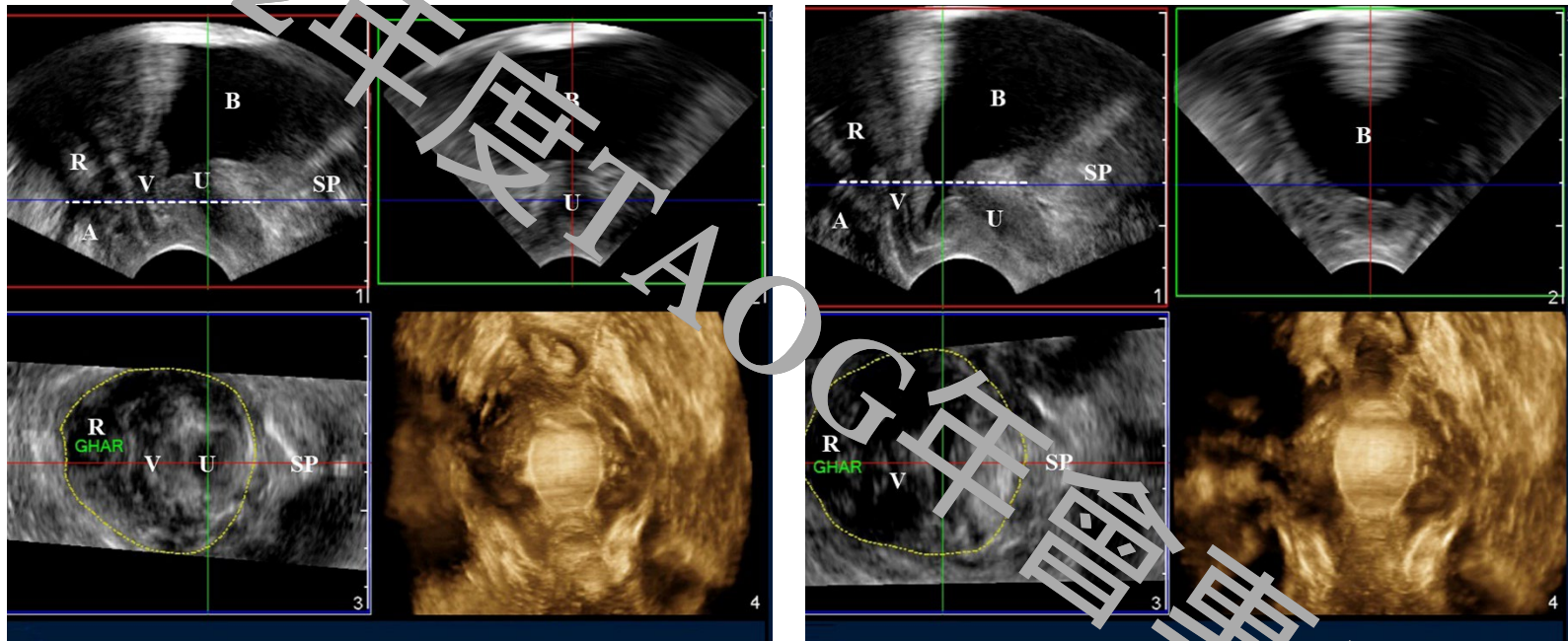
Clinical evaluation

Pelvic organ prolapse

Genitohiatal widening

Resting

Straining



Ultrasound Obstet Gynecol 2006;27:71

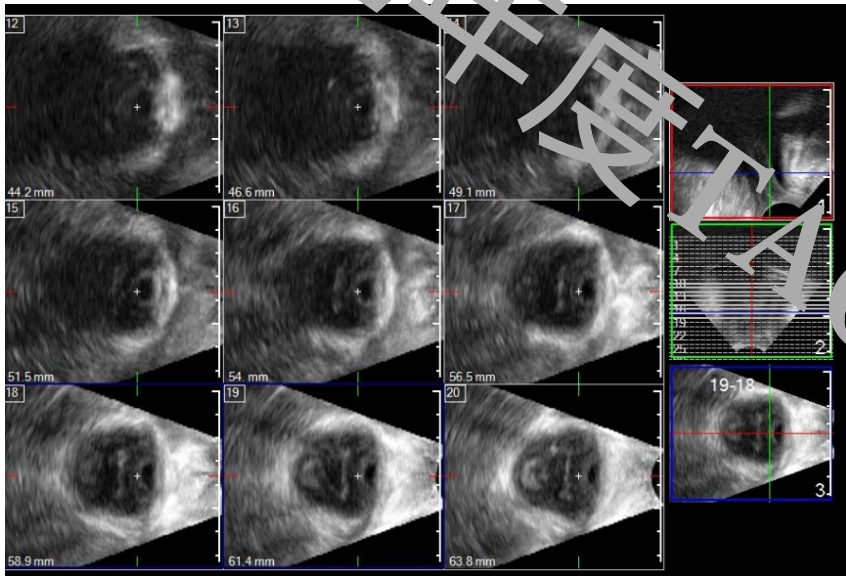
Ultrasound Obstet Gynecol 2006;28:710

Abdominal Radiology 2021;46:1395

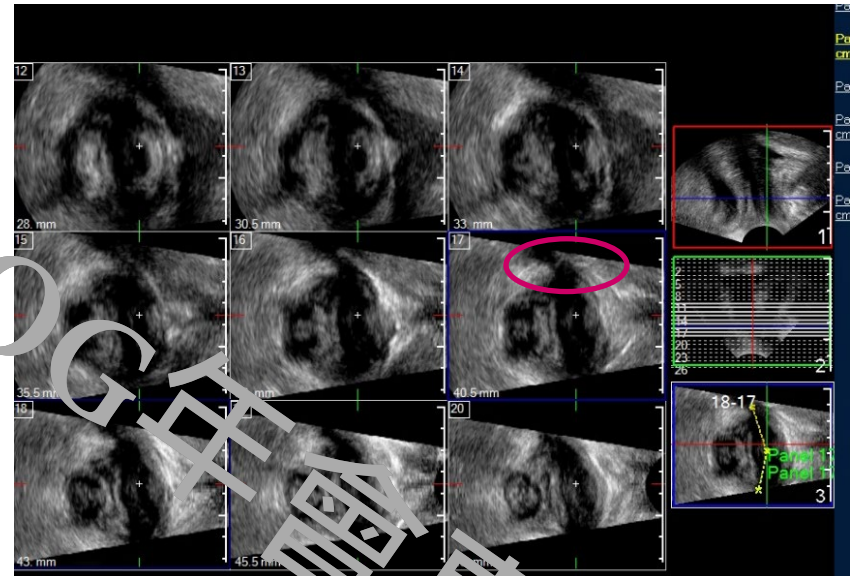
Curr Opin Obstet Gynecol 2020;32:431

Levator avulsion

Negative



Positive



Curr Opin Obstet Gynecol 2020;32:431
Ultraschall in Med 2020-UiM-2993

Levator avulsion

- Primary risk factor: the obstetric Forceps
- The first vaginal birth
- Substantial improvement over time seems unlikely.
- Surgical re-attachment of the puborectalis muscle to the inferior pubic ramus or hiatal reduction: ongoing surgical trials

Postoperative evaluation

Surgical efficacy

Adverse events

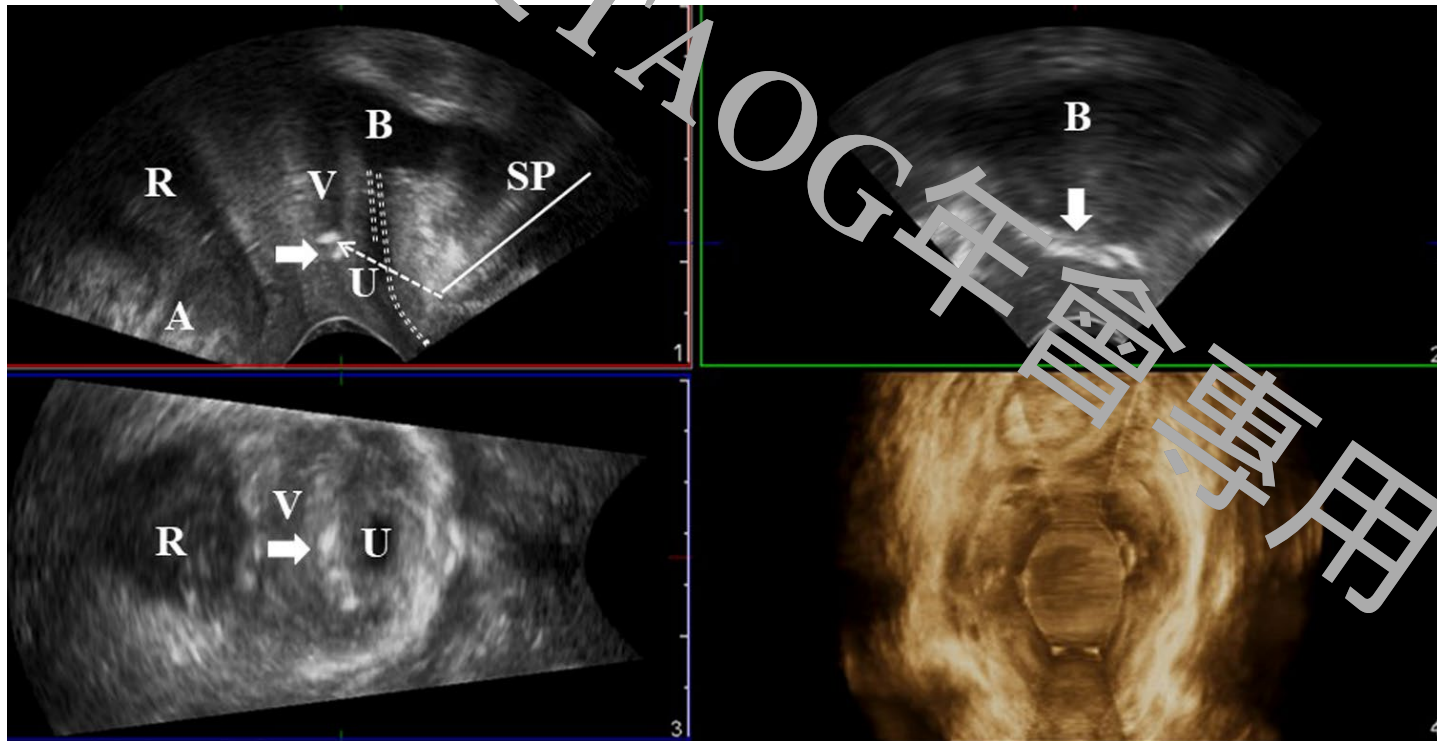
Mid-urethral slings

- Proper location

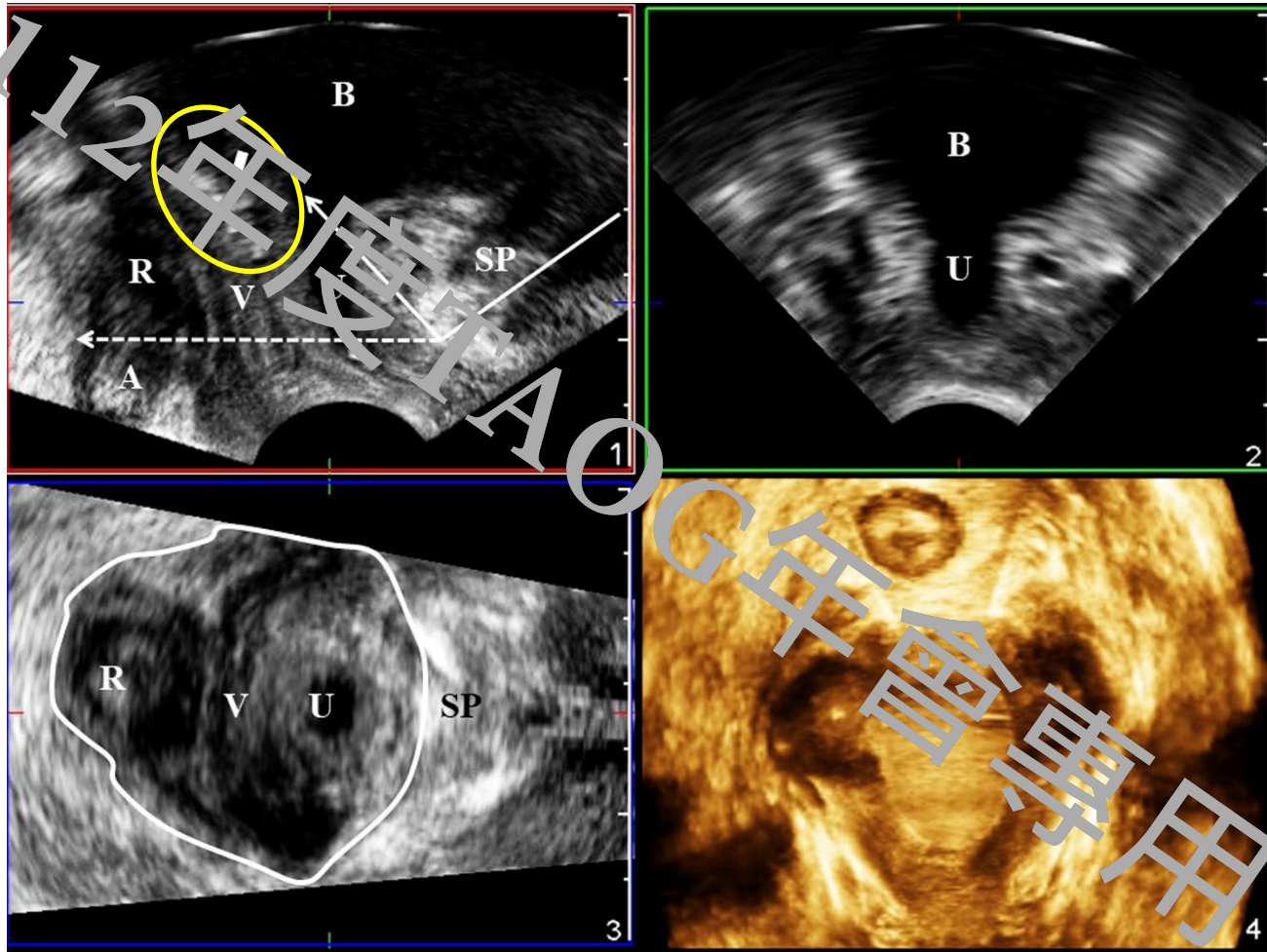
Maturitas 2020 Aug;138:42

Curr Opin Obstet Gynecol 2020;32:431

- Proper urethral compression



Vaginal meshes

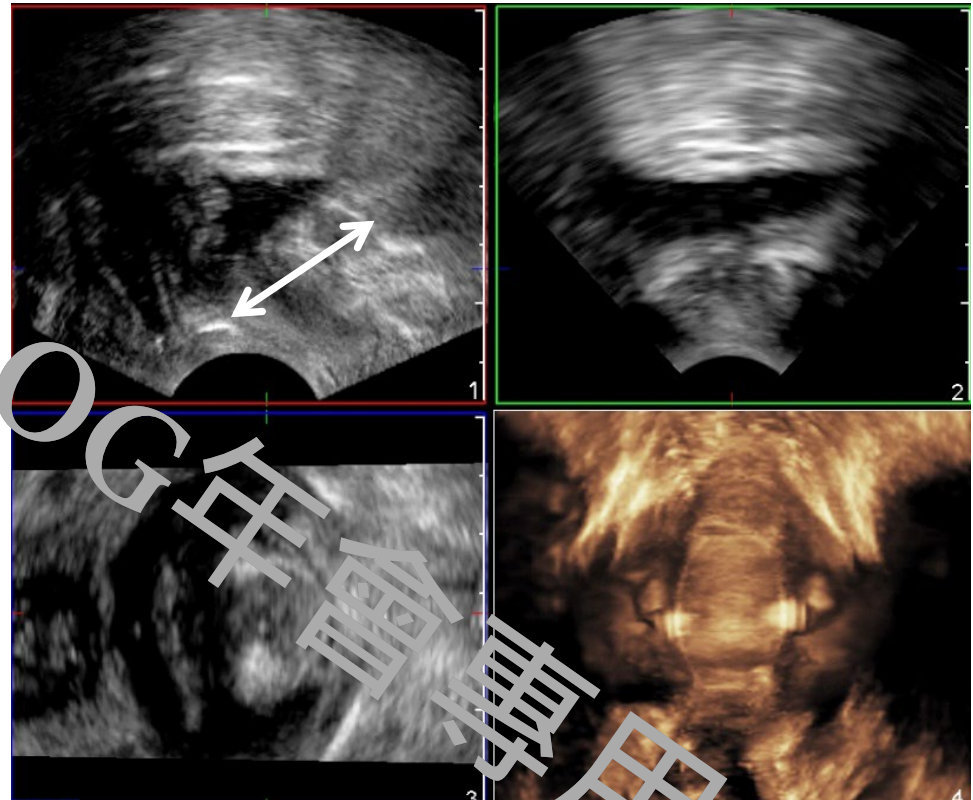


Curr Opin Obstet Gynecol 2020;32:431

Neurourol Urodyn 2020;39:261

Recurrent SUI

- Sling loosening
- Normal sling tightness: **Sling- pubis gap (SPG)** of 8 – 14 mm on maximal Valsalva
- The less SPG, the more voiding dysfunction
- The more SPG, the more USI



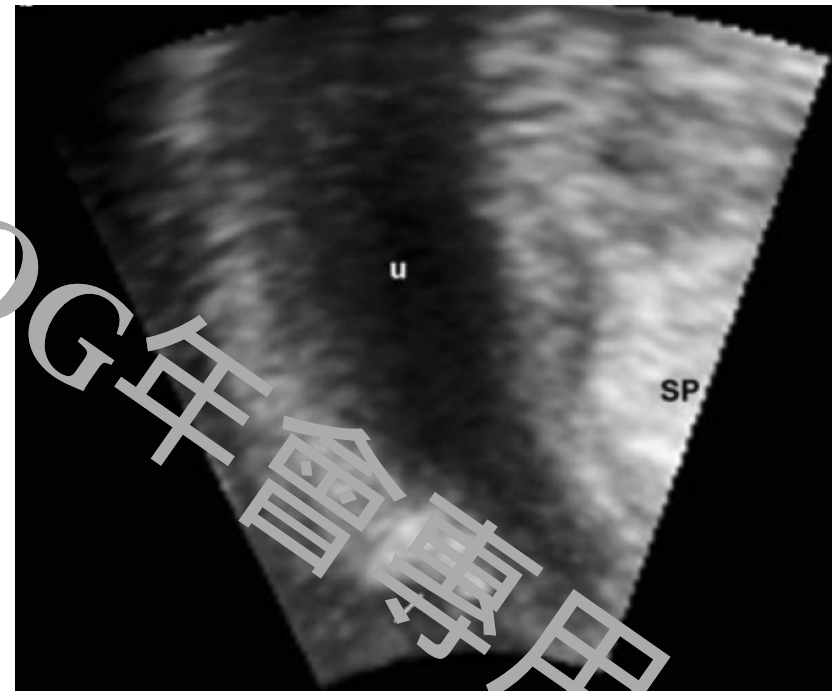
Curr Opin Obstet Gynecol 2020;32:431

Voiding difficulty

Indented urethra by a mid-urethral sling



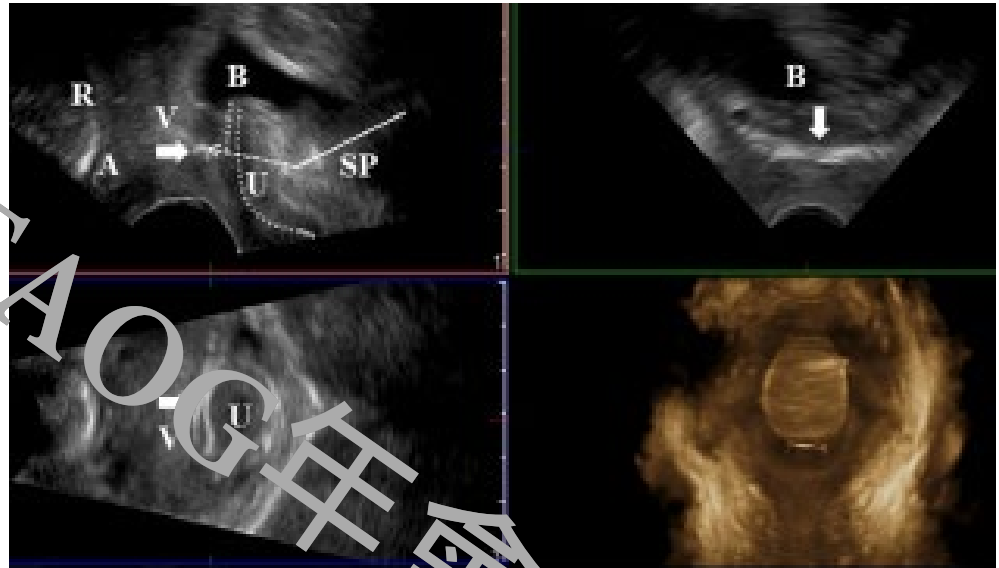
Urethra with normal configuration



- Overcorrection
- Ultrasound Obstet Gynecol 2004;23:302

Excessive sling tension

- Bladder emptying problems, urgency, urge incontinence
- Low sling-pubis gap



Voiding difficulty



- Hematoma
- Ultrasound Obstet Gynecol 2013;41:230

Limitations of ultrasound

- Other complications, such as pain and erosion
 - Apart from determining the presence, extent and mechanical efficacy of the implant

Summary

- A comprehensive evaluation of female pelvic floor dysfunction is based on clinical history, physical examination, urodynamics, and imaging studies.
 - Some of the ultrasound findings may only be incidental or supplementary to the patient's symptoms
- For women with pelvic floor dysfunction
 - Pelvic floor ultrasound is an appropriate first-line imaging modality.
- Be creative!

Thank you.