

IUGA International Symposium on Birth Trauma and Pelvic Floor Health for Allied Health Professionals

Clinical practical use of ultrasound for assessment of conservative treatment for female pelvic floor dysfunction

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Female pelvic floor dysfunction

- ❖ stress urinary incontinence
- ❖ OAB (dry, wet)
- ❖ mixed incontinence
- ❖ pelvic pain syndrome



Ultrasound Pelvic Floor

Pelvic Floor Sonofeedback Therapy®

diagnostic



therapy



FUNCTIONAL DIAGNOSTICS

(International Classification of Functioning, Disability and Health - ICF)

damaged structure

what function is disabled

what our patient can not do in life



Pelvic Floor Sonofeedback Therapy®

Ultrasonography is:

non-invasive
without a contrast agent
fast to make
easy to learn
cheap
dynamic
objective



Ultrasound heads

(Pelvic Floor Sonofeedback Therapy®)



TRANSABDOMINAL ULTRASOUND

convex (3,5-5 MHz)

- ❖ we assess the capacity of the bladder
- ❖ residual urine after micturition
- ❖ elevation / depression of the pelvic floor
- ❖ place damage to the structures of the pelvic floor



TRANSABDOMINAL ULTRASOUND

transverse plane



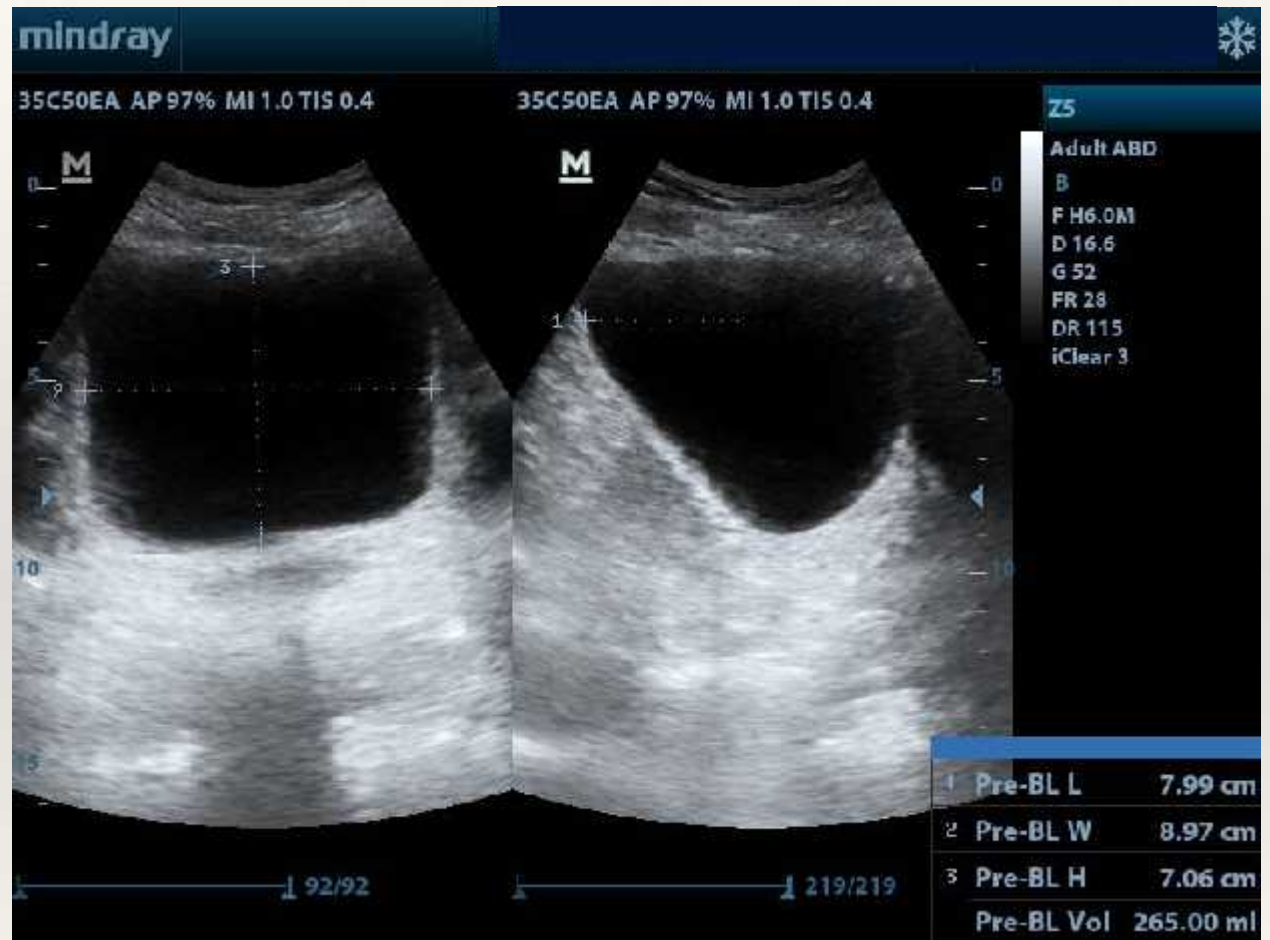
sagittal plane



TRANSABDOMINAL ULTRASOUND

bladder capacity

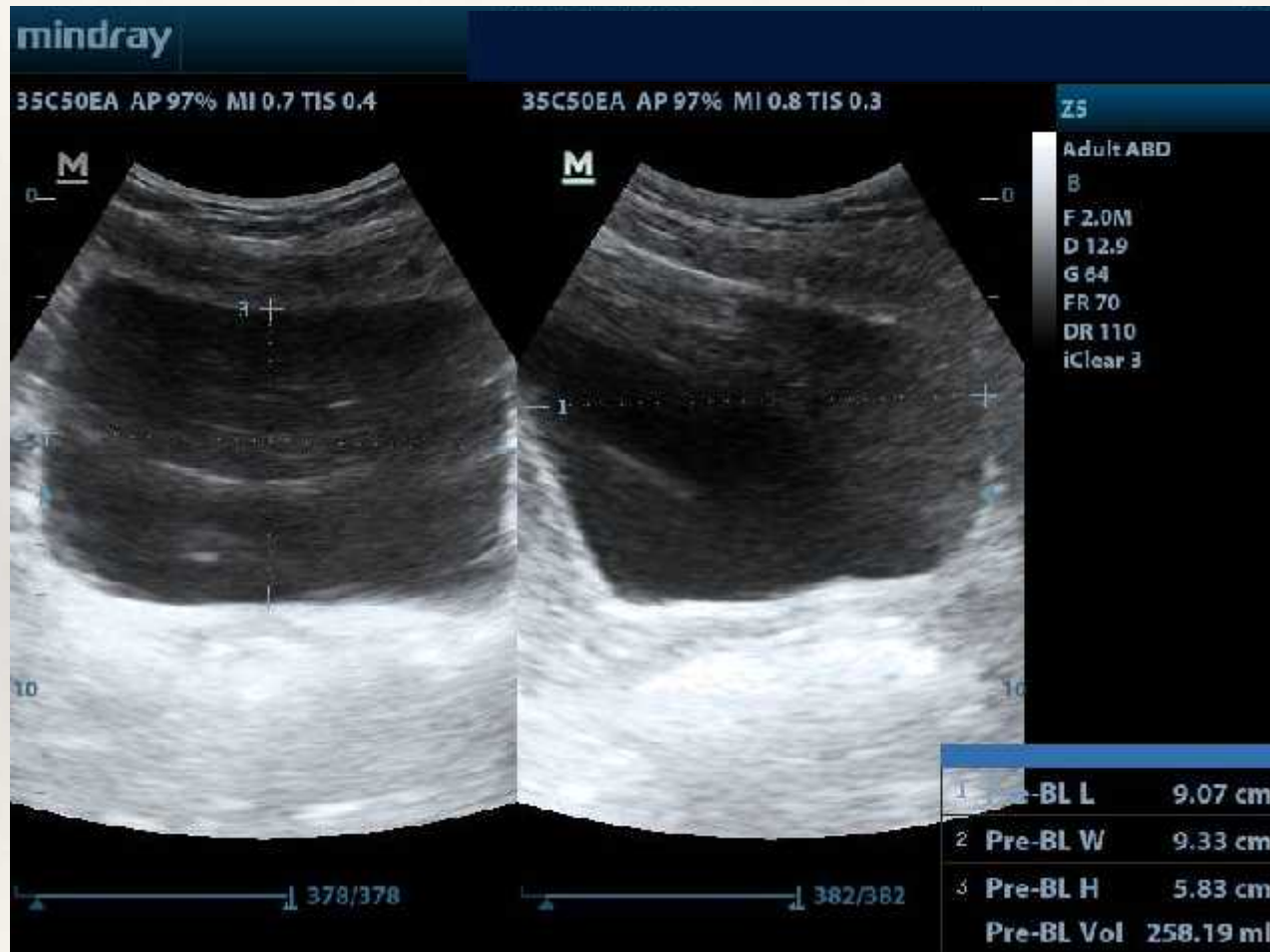
- ❖ evaluated before and after micturition
- ❖ we are looking for the setting that gives the largest bladder area in the ultrasound image
- ❖ the shape of the bladder depends on the degree of its filling



TRANSABDOMINAL ULTRASOUND (bladder capacity)



TRANSABDOMINAL ULTRASOUND (bladder capacity)



TRANSABDOMINAL ULTRASOUND

residual urine after micturition

- ❖ we say about residual urine if more than 30 ml of urine is left after the micturition
- ❖ residual urine above 50 ml is clinically relevant

residual urine can give

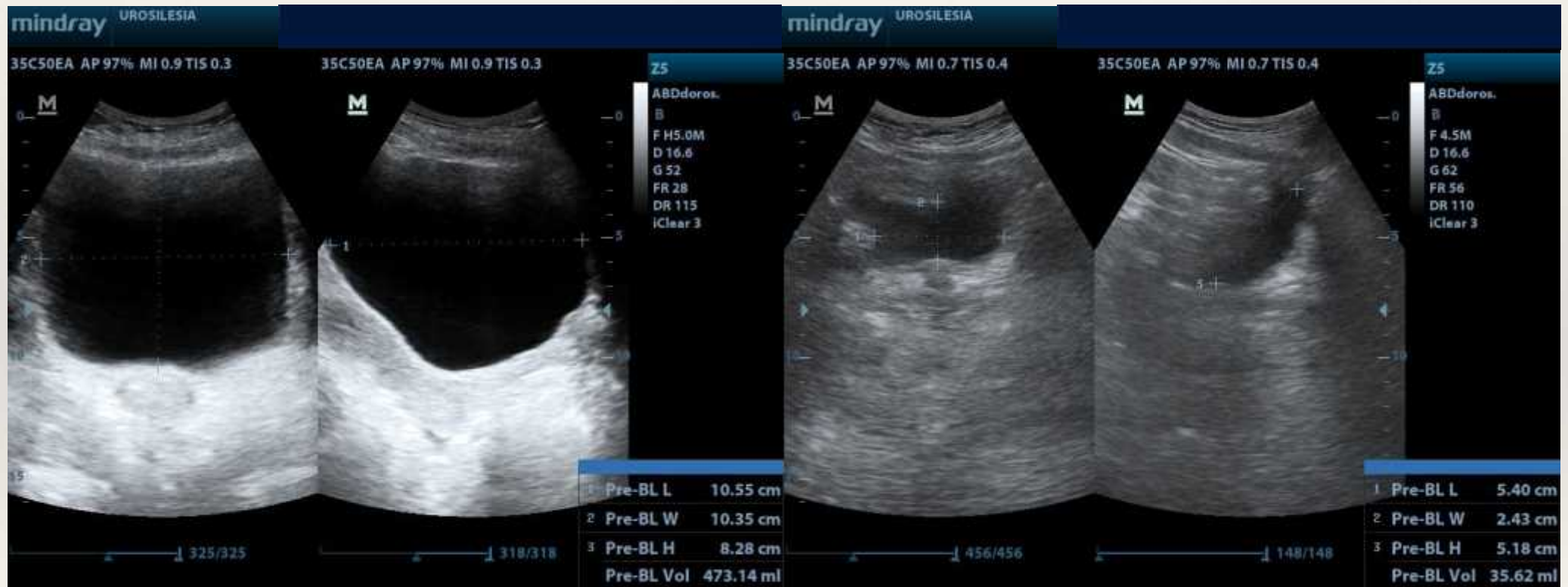
- ❖ bladder infection
- ❖ urinary incontinence



TRANSABDOMINAL ULTRASOUND (residual urine after micturition)

before micturition

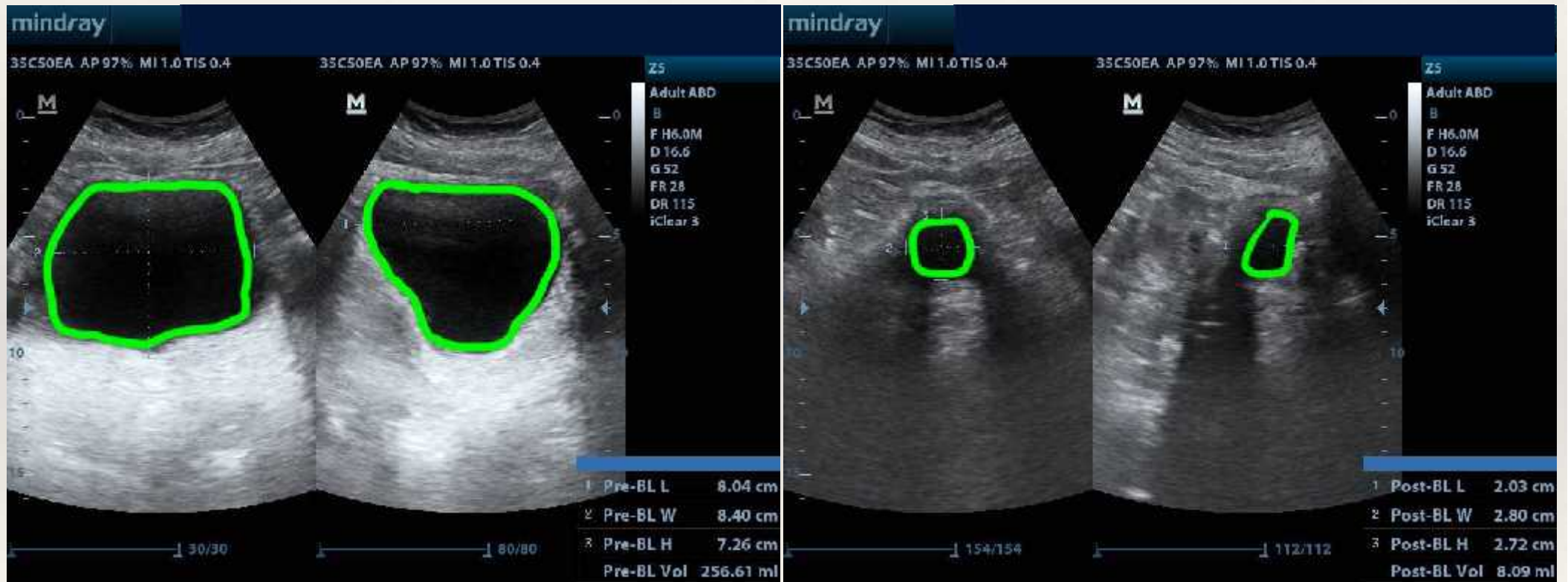
after micturition



TRANSABDOMINAL ULTRASOUND (residual urine after micturition)

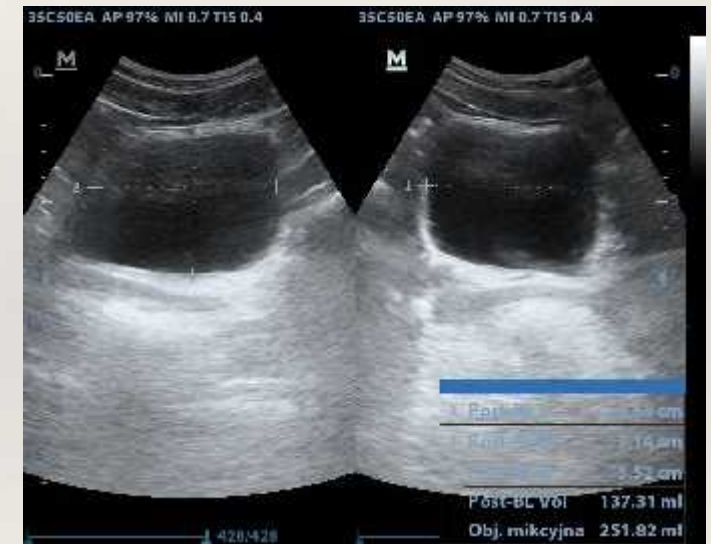
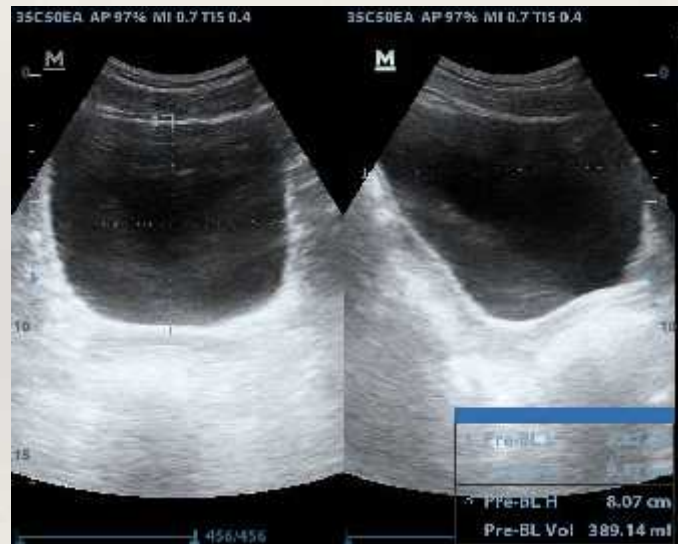
before micturition

after micturition



TRANSABDOMINAL ULTRASOUND (residual urine after micturition)

before micturition after micturition after micturition



TRANSABDOMINAL ULTRASOUND

urinary retention

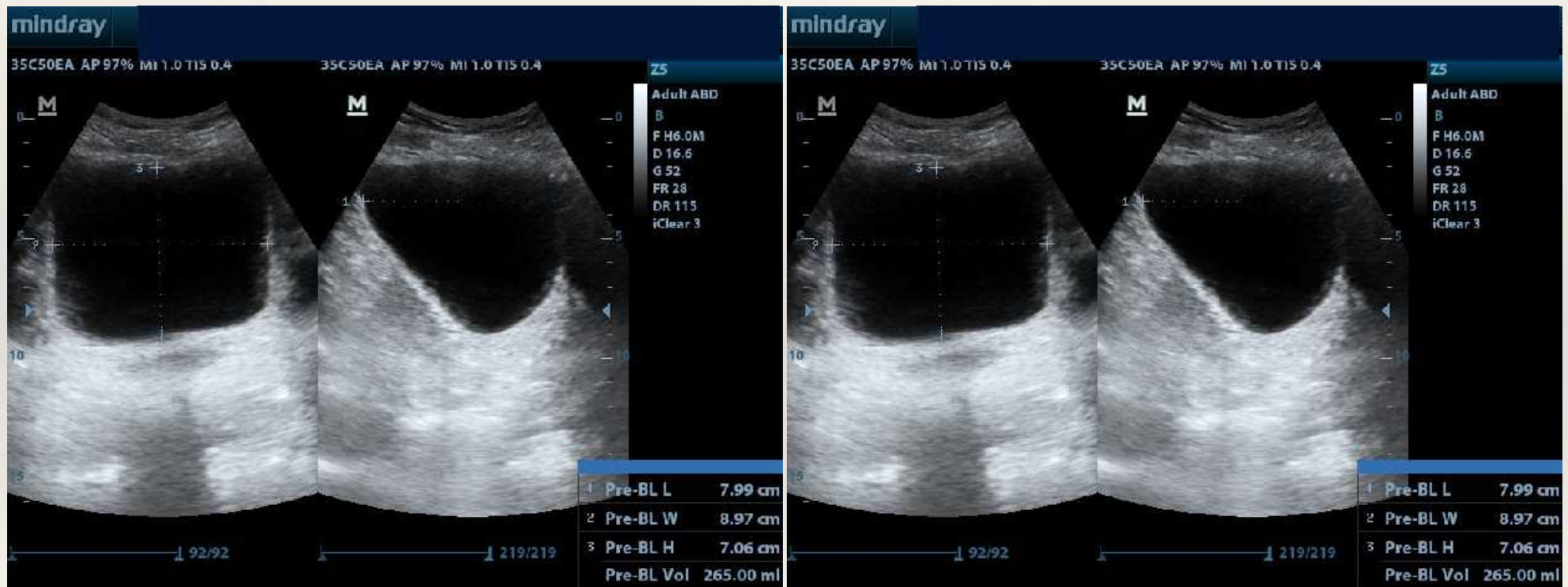
- ❖ dangerous for the kidneys
- ❖ it is important to drain the urine from the bladder (backflow of urine to the kidneys is bad)
- ❖ the solution to urinary retention in the bladder is catheterization



TRANSABDOMINAL ULTRASOUND (urinary retention)

before micturition

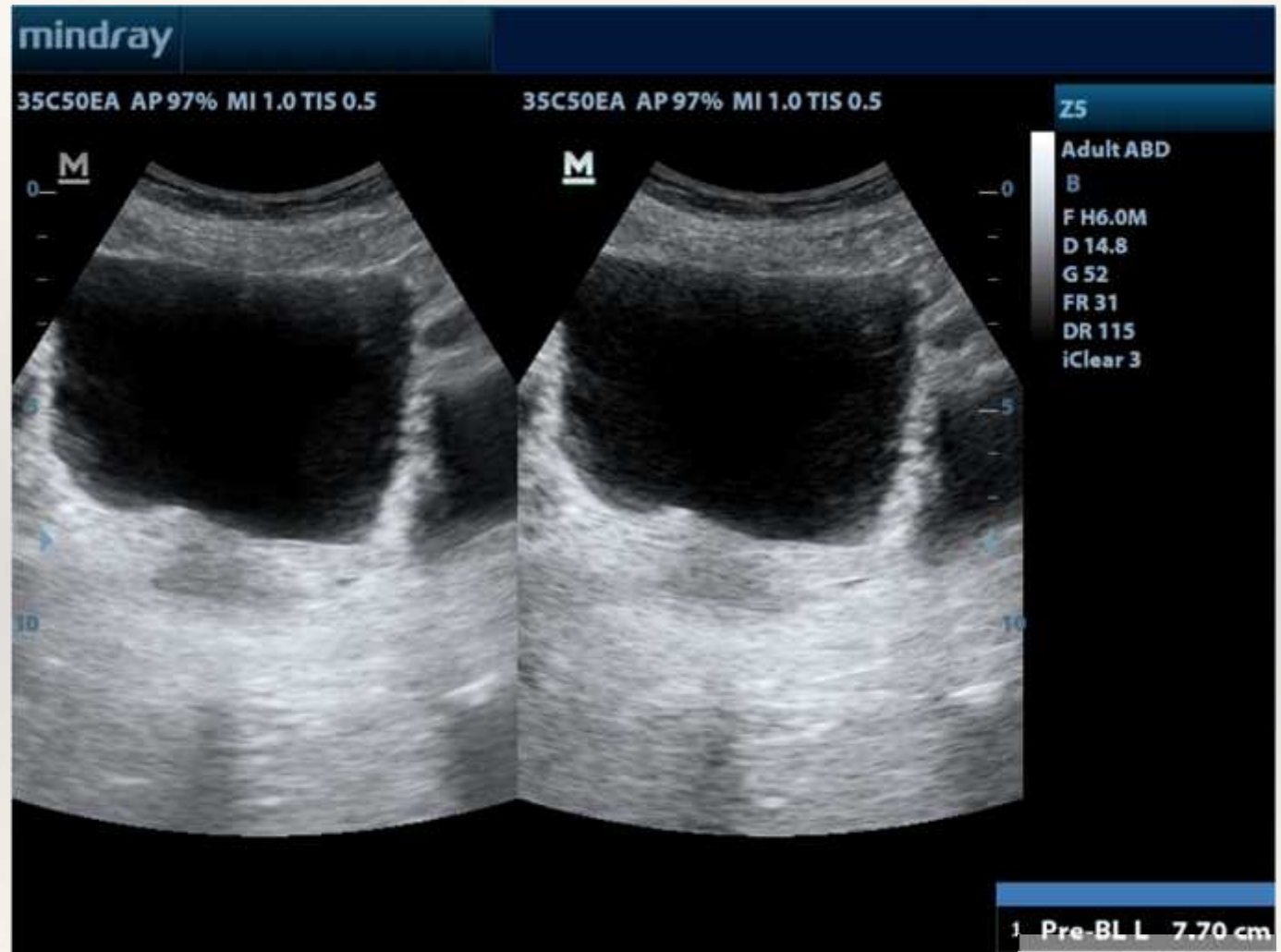
after micturition



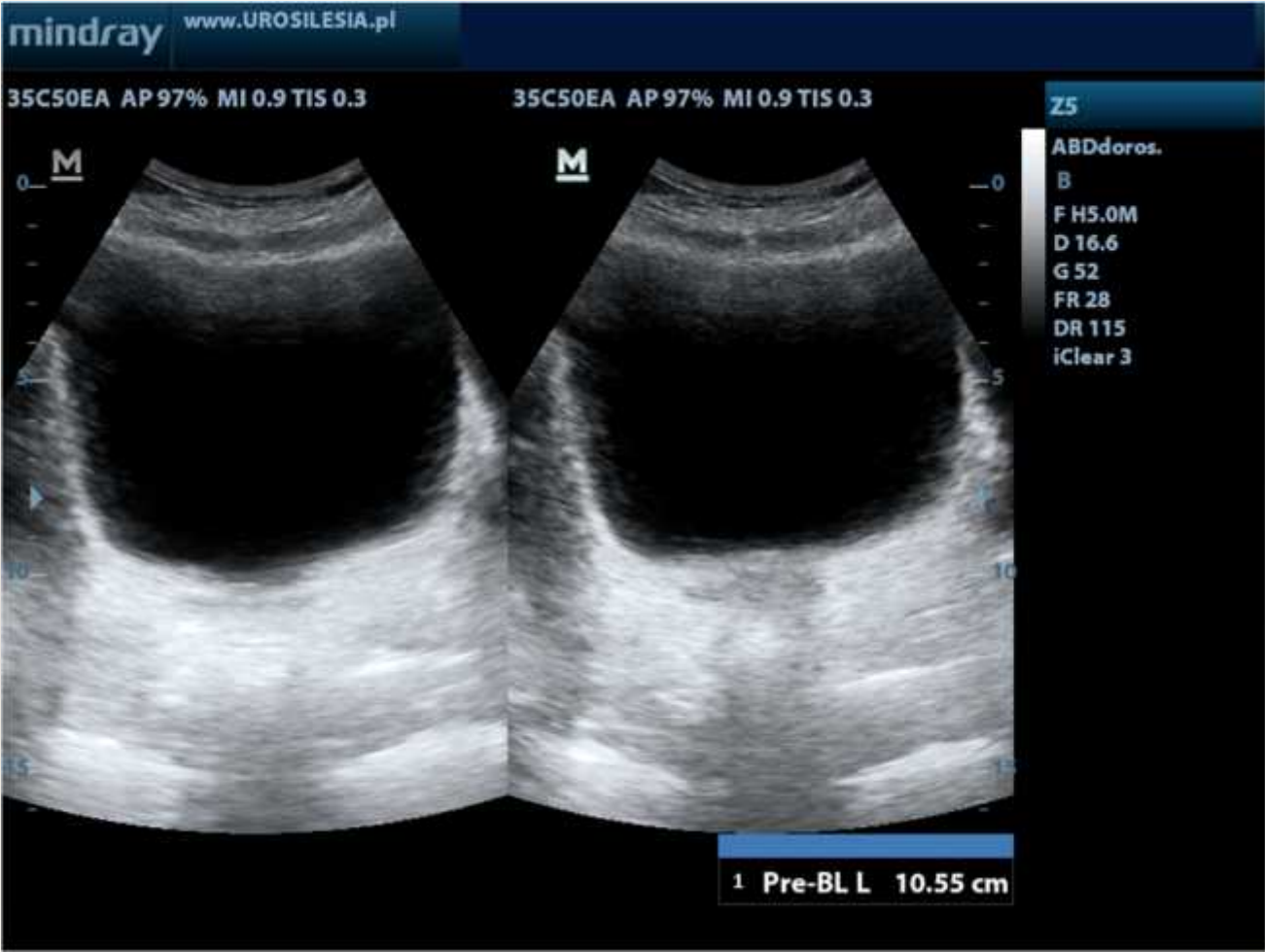
TRANSABDOMINAL ULTRASOUND

elevation / depression
of the pelvic floor

- ❖ real-time
observation as
Pelvic Floor
Sonofeedback
Therapy®



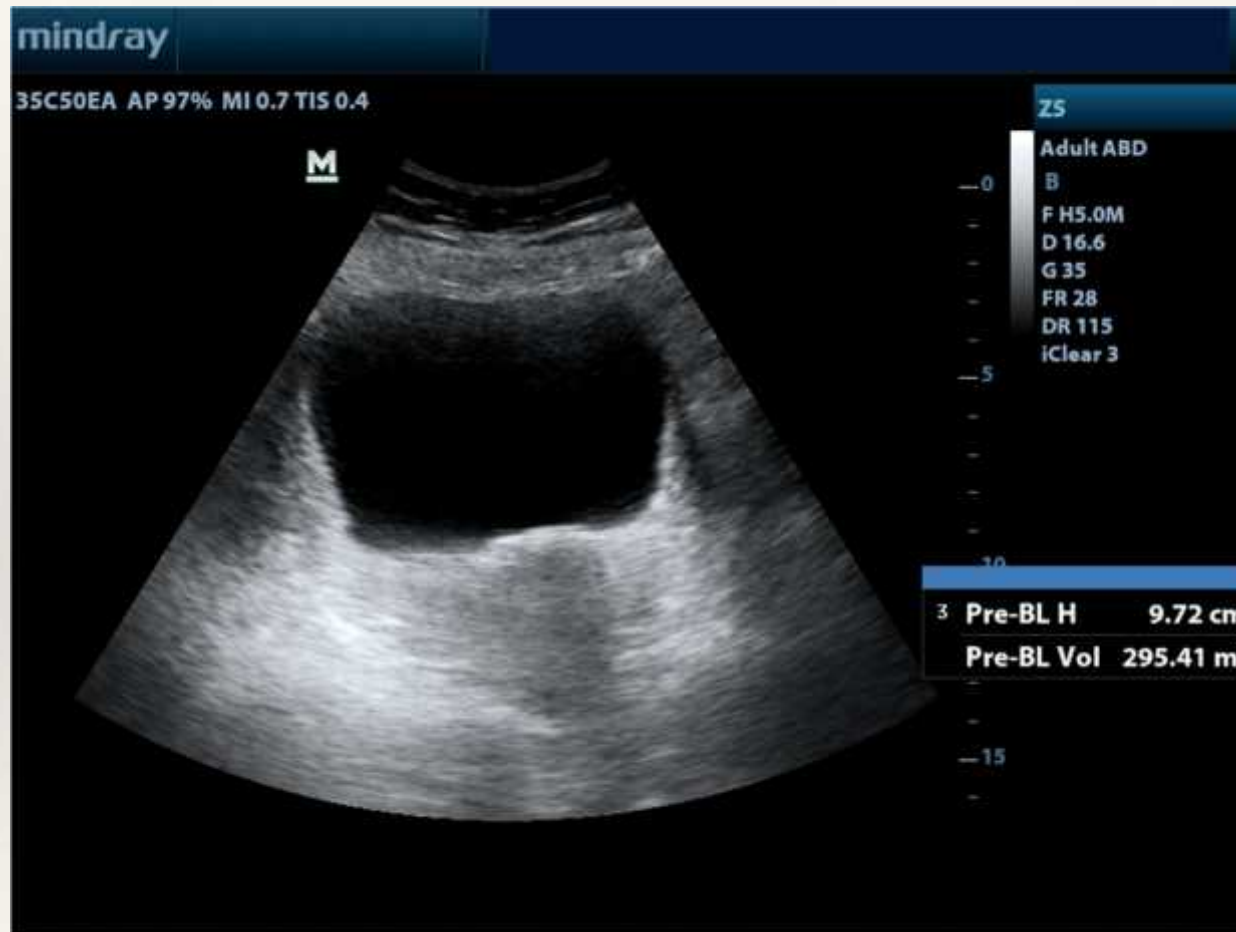
TRANSABDOMINAL ULTRASOUND (elevation of the pelvic floor)



TRANSABDOMINAL ULTRASOUND (depression of the pelvic floor)



TRANSABDOMINAL ULTRASOUND (depression of the pelvic floor)



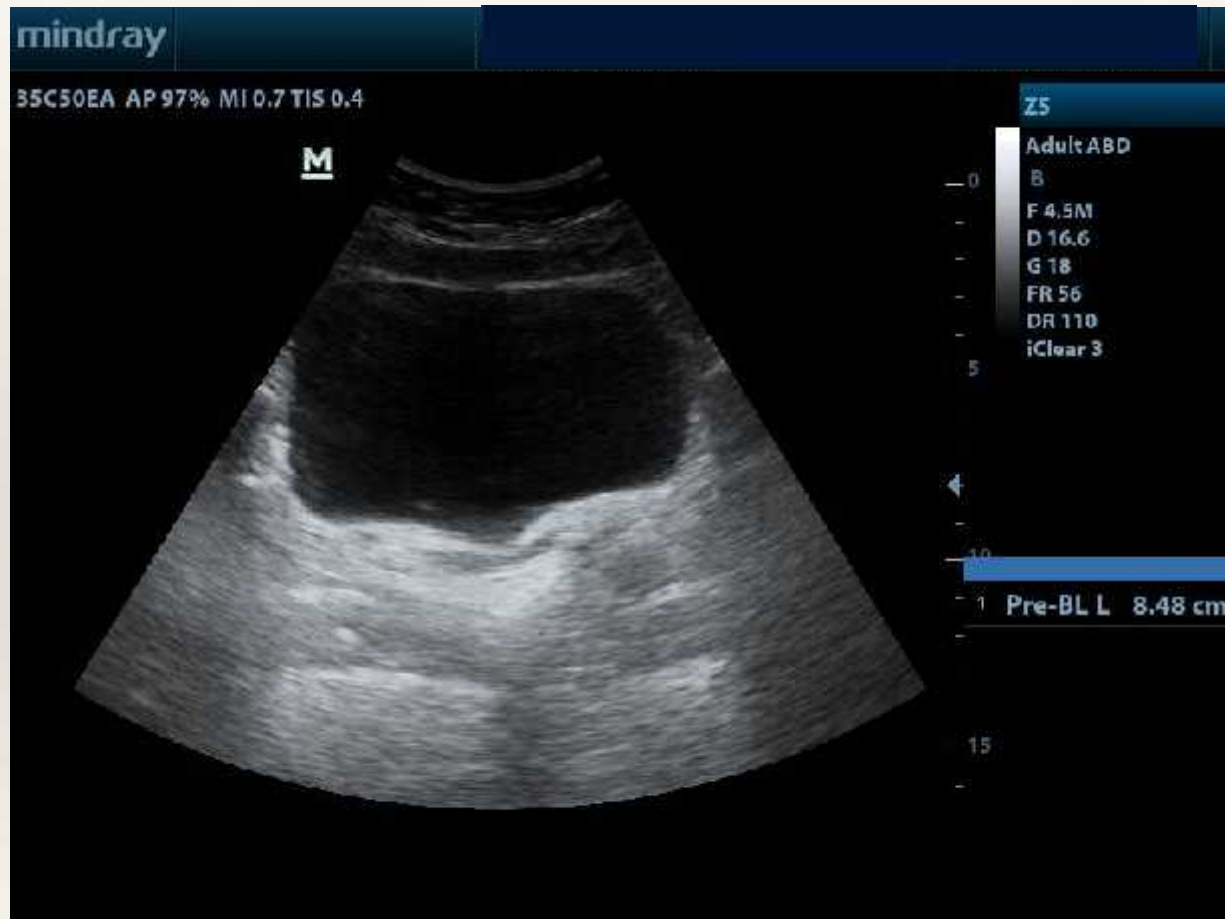
TRANSABDOMINAL ULTRASOUND (depression of the pelvic floor)



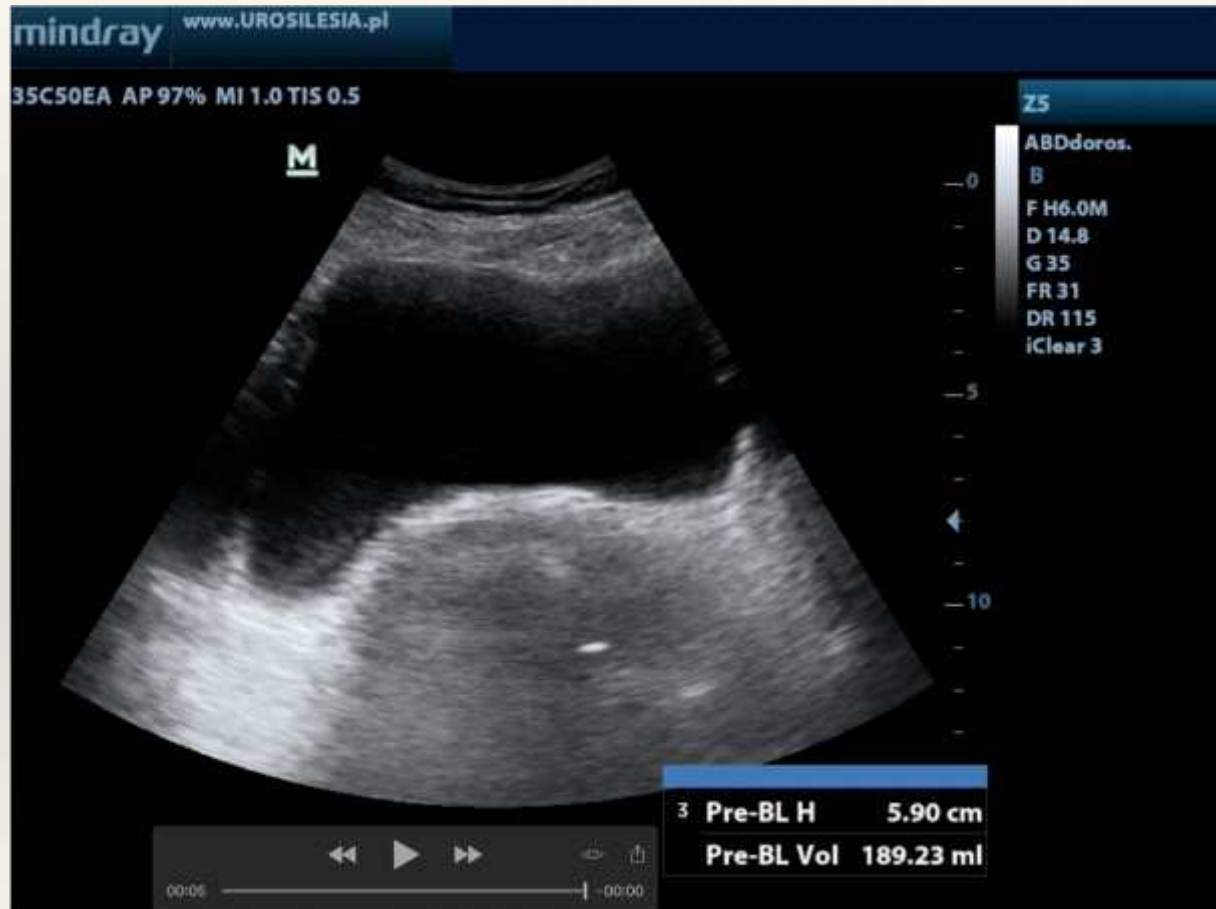
TRANSABDOMINAL ULTRASOUND (damaged structures)



TRANSABDOMINAL ULTRASOUND (central damage)



TRANSABDOMINAL ULTRASOUND (lateral damage)



TRANSABDOMINAL ULTRASOUND

Normal



Central



Lateral



ENDOVAGINAL ULTRASOUND

- ❖ Endovaginal (3,5-5MHz)



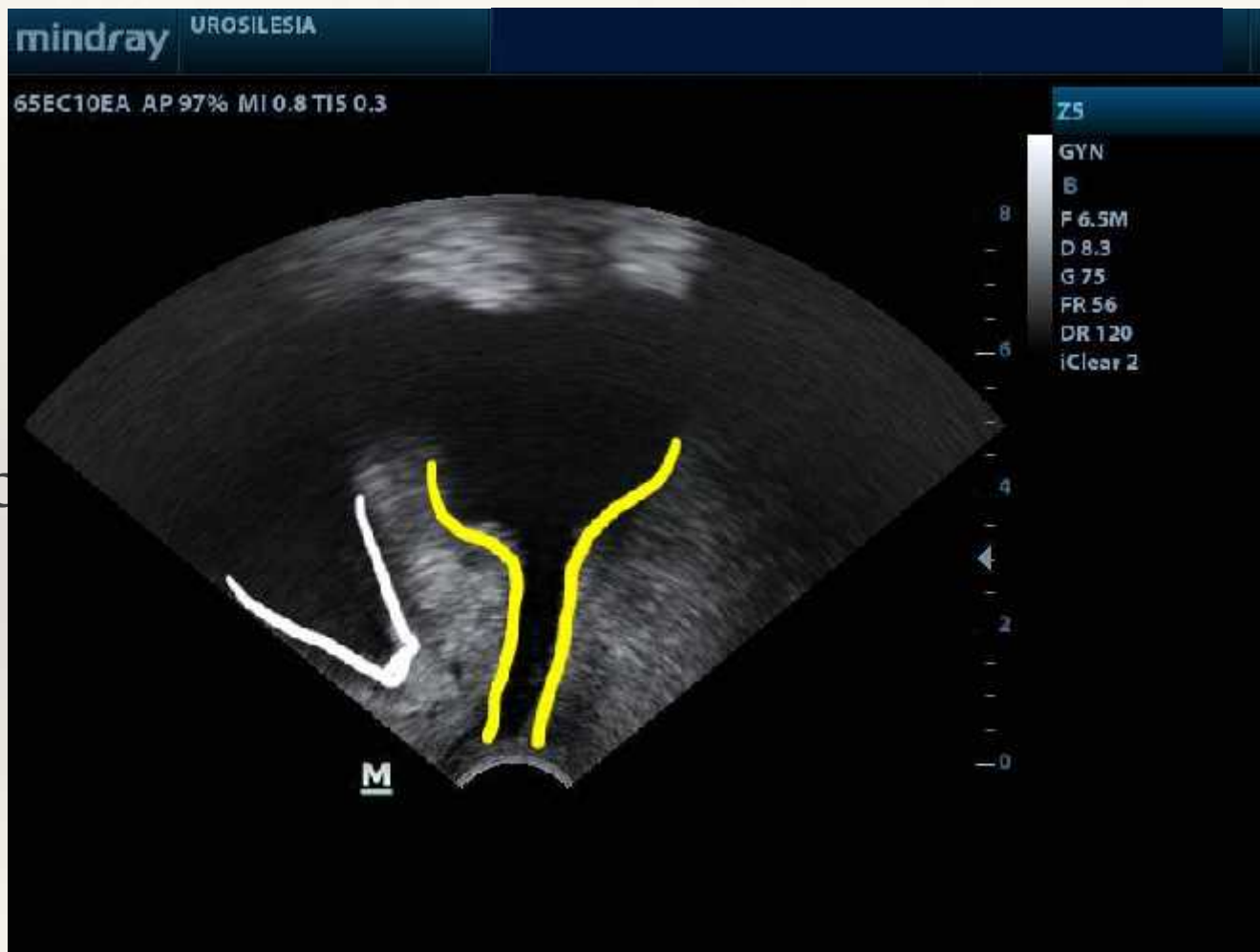
ENDOVAGINAL ULTRASOUND

- ❖ Dynamic behavior of the urethra
- ❖ Movement of the urethra
- ❖ The length of the urethra



ENDOVAGINAL ULTRASOUND

❖ obraz c



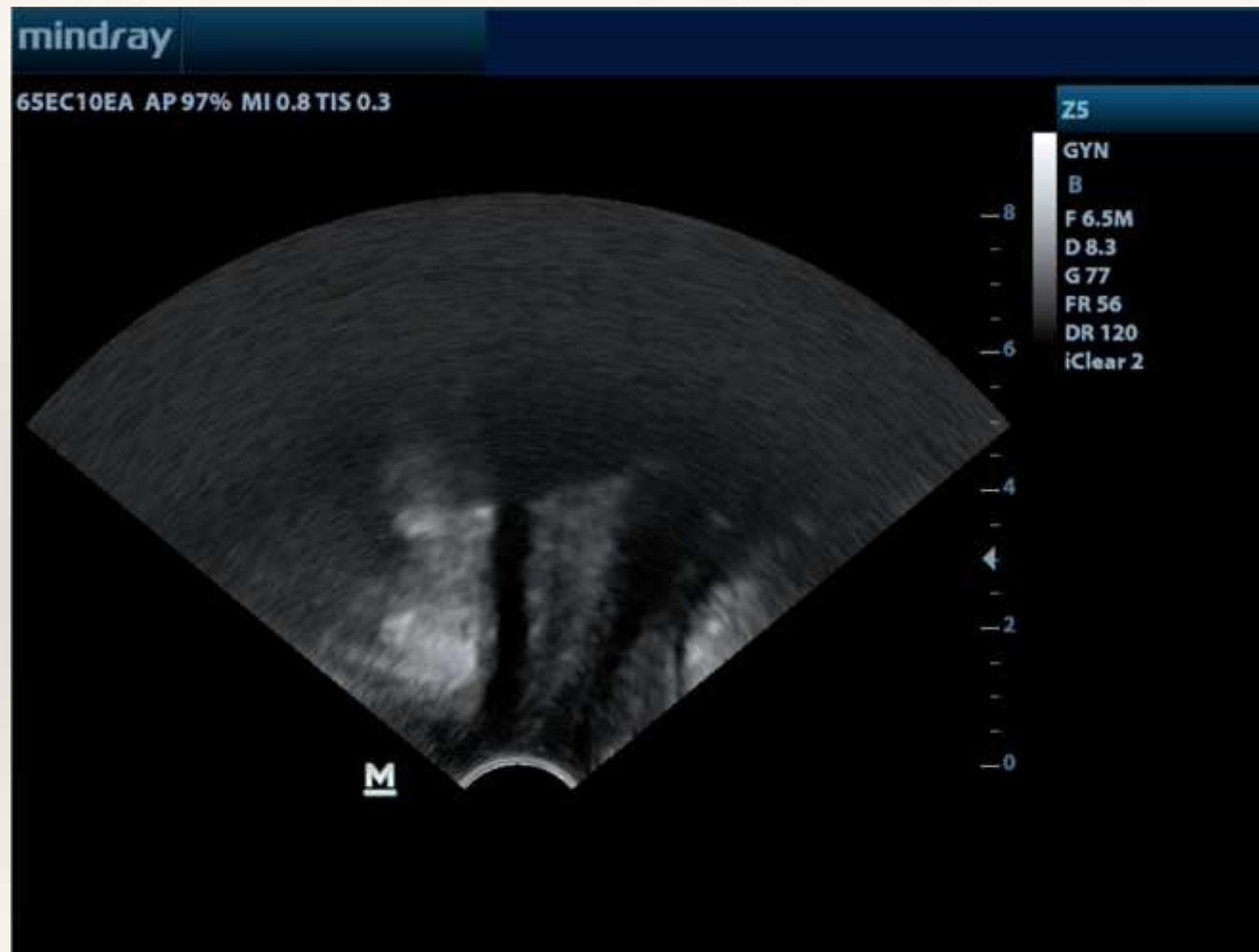
ENDOVAGINAL ULTRASOUND

- ❖ Dynamic behavior of the urethra



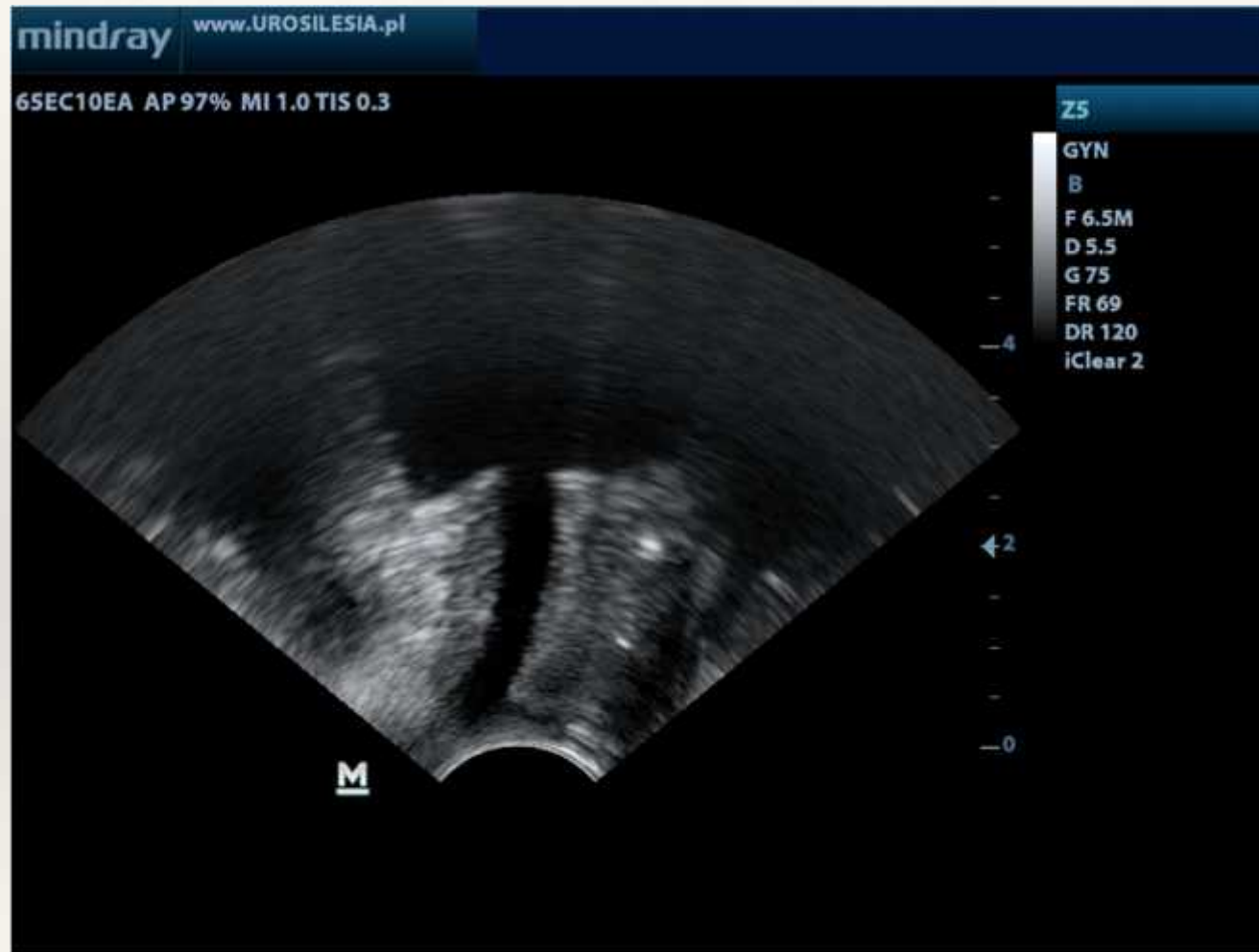
ENDO VAGINAL ULTRASOUND

(bad dynamic behavior of the urethra)



ENDOVAGINAL ULTRASOUND

(bad dynamic behavior of the urethra)

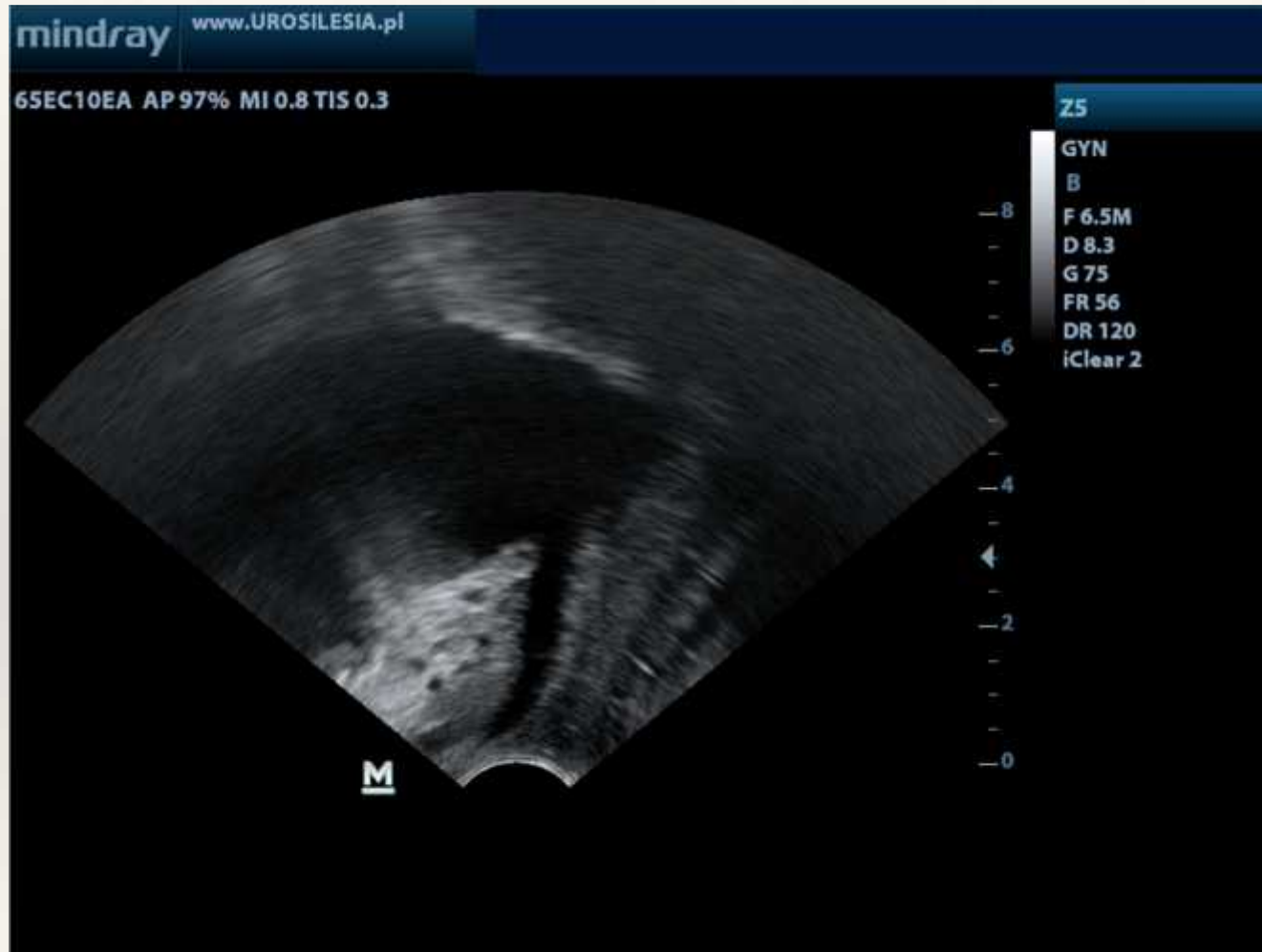


ENDOVAGINAL ULTRASOUND

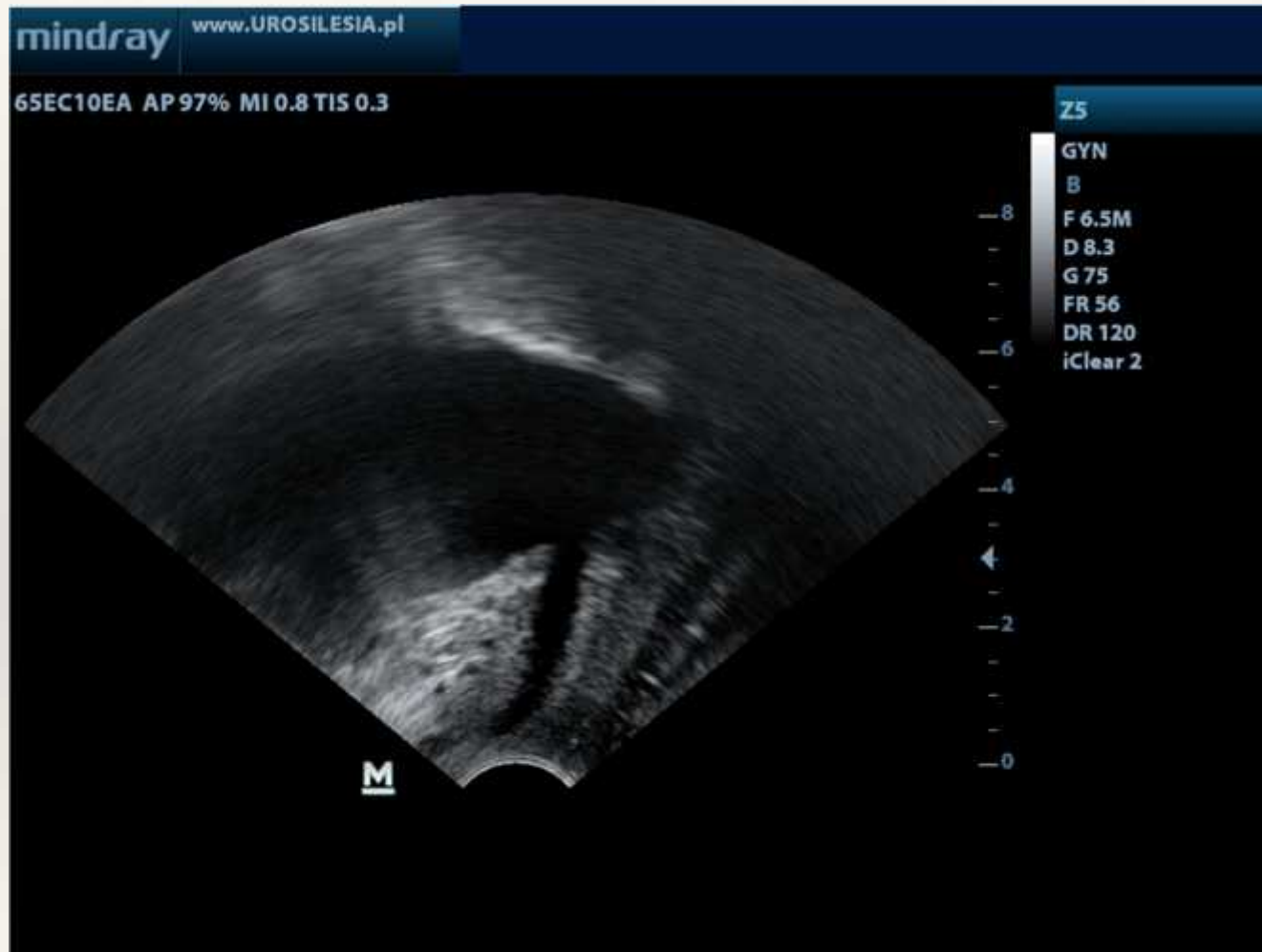
❖ Movement of the urethra



ENDO-VAGINAL ULTRASOUND (good movement of the urethra)



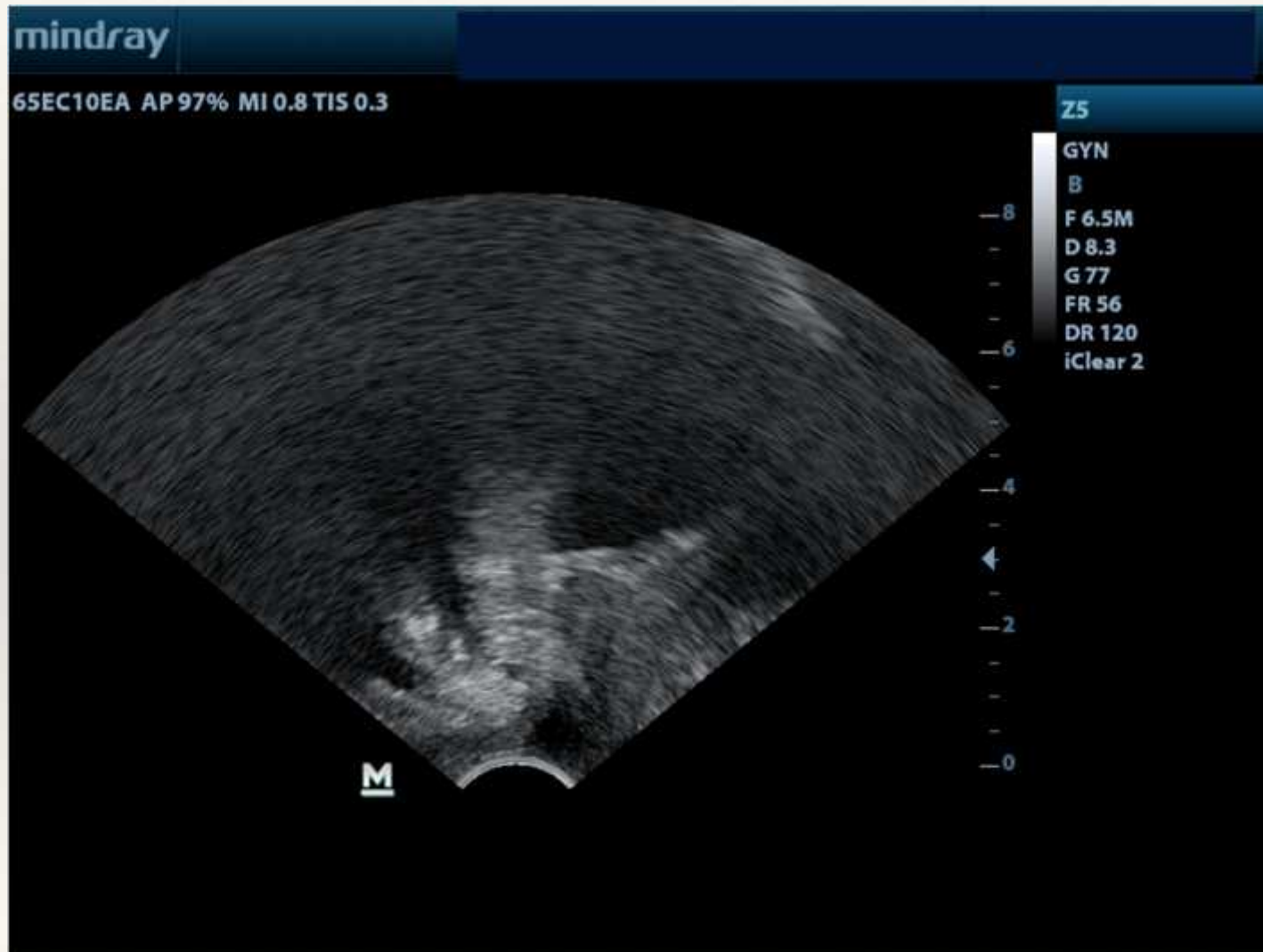
ENDO-VAGINAL ULTRASOUND (good movement of the urethra)



ENDO-VAGINAL ULTRASOUND (bad movement of the urethra)



ENDO VAGINAL ULTRASOUND (bad movement of the urethra)



ENDOVAGINAL ULTRASOUND

The length of the urethra

- ❖ the well-made measurement is important
- ❖ originally, it was always thought that the length of the urethra was 3 cm
- ❖ the shorter urethra is less mobile



ENDO-VAGINAL ULTRASOUND (The length of the urethra)



ENDOVAGINAL ULTRASOUND (The length of the urethra)



ENDOVAGINAL ULTRASOUND (The length of the urethra)



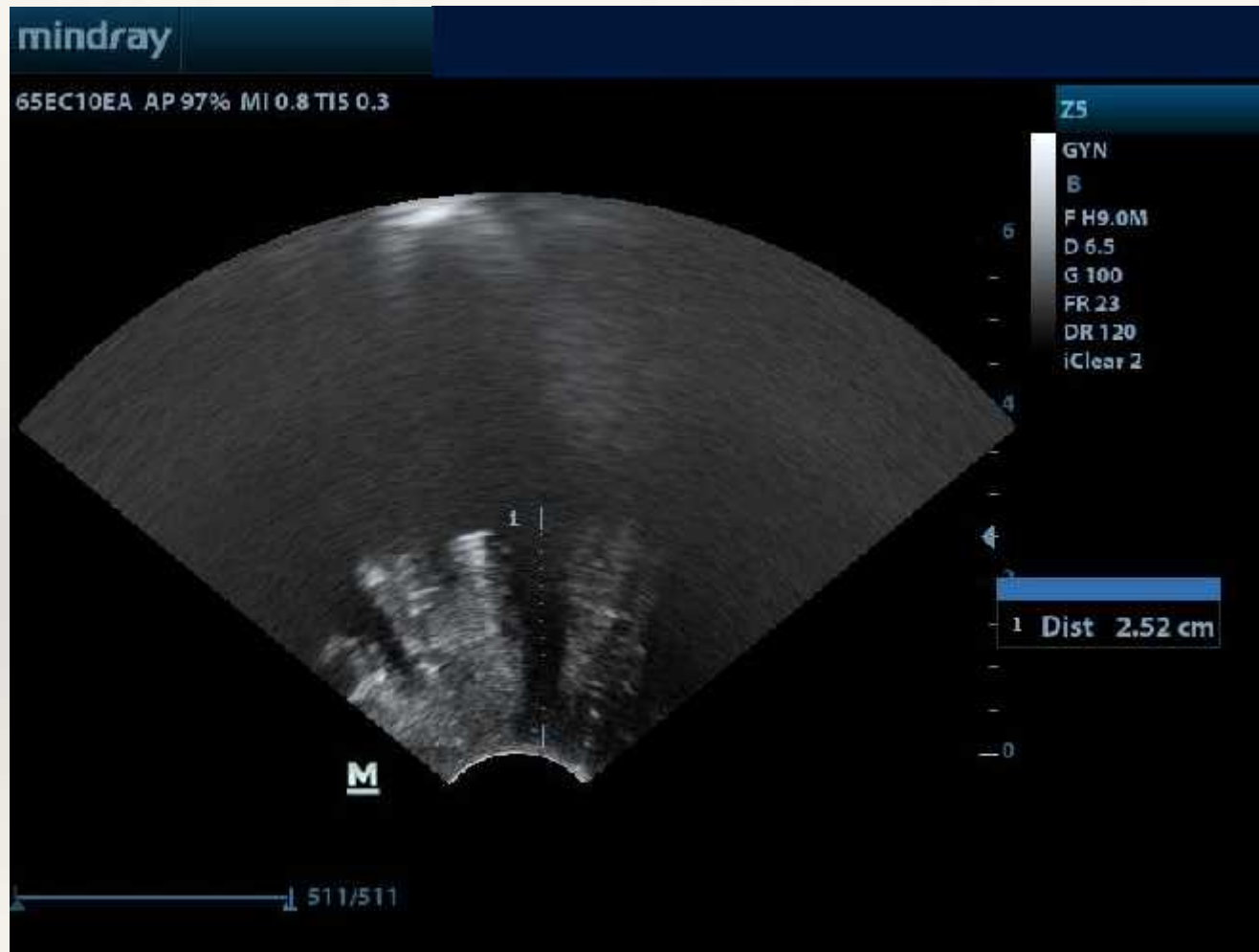
ENDOVAGINAL ULTRASOUND (The length of the urethra)



ENDOVAGINAL ULTRASOUND (The length of the urethra)



ENDO-VAGINAL ULTRASOUND (The length of the urethra)



ENDO-VAGINAL ULTRASOUND (The shape of the urethra)

straight urethra



bent urethra



Ultrasound for conservative treatment in women with pelvic floor dysfunction (Pelvic Floor Sonofeedback Therapy®)

Gives us the possibilities:

- ❖ functional diagnostics
- ❖ ultrasound therapy
- ❖ assessment of therapy effectiveness



Thank you