

## TRANSVAGINAL ULTRASONOGRAPHY AND URETHRAL DIVERTICULA: A DIAGNOSTIC AND THERAPEUTIC TOOL.

### Hypothesis / aims of study

Urethral diverticula have an incidence in white people of 1-4%. Patients assessment is extremely difficult because of the heterogeneity of symptoms not necessarily related to the disease. The "high index of suspicion" of Davis and Telinde (based on the 3D syndrome: dysuria, dyspareunia, dribbling) is mainly used for clinical diagnosis. Particularly challenging is the differential diagnosis with interstitial cystitis, urethral syndrome or frequency-urgency syndrome. The aim of our study is to assess the role of transvaginal ultrasonography in the diagnosis of urethral diverticula and in surgical treatment of this disease.

### Study design, materials and methods

Between January 2006 and May 2010 we evaluated 12 female patients (mean age 31 years) with clinical suspect of urethral diverticula. All Patients were symptomatic for dysuria, dyspareunia and low urinary tract symptoms. The diagnostic work-up consisted in: pelvic magnetic resonance imaging, urethrocytostocopy and transvaginal ultrasonography with both resting and dynamic (during micturition) evaluation using an Hitachi H21 with a biplane probe 7.5 MH.

### Results

- 1)Pre-operative cystoscopy identified diverticulum's neck in 3/12 Patients.
- 2)Magnetic resonance imaging permitted the diagnosis in 8/12 Patients.
- 3)Transvaginal ultrasonography was able to identify diverticula in 10/12 Patients and Skene gland cyst in 2/12 Patients.

The 10 patients who had diagnosis of urethral diverticula have been treated surgically with both transvaginal intraoperative ultrasound and flexible urethrocytostocopy guide which were able to identify the diverticulum in 8/12 Patients.

### Interpretation of results

The diagnostic rate of magnetic resonance imaging, urethrocytostocopy and transvaginal ultrasonography were respectively of 66%, 25% and 100%. These results are mainly due to the possibility of dynamically verifying the voiding phase with progressive engorgement of diverticulum with urine. It is therefore possible to make differential diagnosis with Skene gland cyst/adenocarcinomas and Bartolini's gland cysts. Intraoperative transvaginal ultrasound allowed improving diagnostic sensibility of flexible cystoscopy increasing the ability to identify the ostium of diverticula.

### Concluding message

Transvaginal static and dynamic urethral ultrasonography is an effective, non invasive, cheap procedure for diagnostic evaluation and surgical treatment of urethral diverticula.

### References

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<b>Is this a clinical trial?</b>	<b>No</b>
<b>What were the subjects in the study?</b>	<b>HUMAN</b>
<b>Was this study approved by an ethics committee?</b>	<b>No</b>
<b>This study did not require ethics committee approval because</b>	<b>Not needed as this is a standard pre-operative tool</b>
<b>Was the Declaration of Helsinki followed?</b>	<b>Yes</b>
<b>Was informed consent obtained from the patients?</b>	<b>Yes</b>