



# Neonatal obstructed ureterocele: Challenges in endoscopic methods of decompression

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## Introduction

Ureterocele is well known problem encounters pediatric urologist which can be defined as cystic dilatation of ureter at its distal end [1]. It can be intravesicle or extra vesicle and associated with single system, more commonly, duplex renal system. Diagnosis can be achieved via pre- natal and postnatal Ultrasound scan, VCUG or more advance anatomical studies like MRI, however, the most reliable way in detecting such anomaly is endoscopy [2].

Minimal invasive endoscopic procedure is the preferred approach for obstructive ureterocele at early period of life. Traditionally, electro-surgery has been utilized while recently more modern technique using holmium: yttrium-aluminum-garnet (Ho:YAG) laser is reported to be accurate, safe and effective approach [3,4].

Both techniques are effective with no significant result regarding hospitalization, need for retreatment and the occurrence of complications, however, it was associated with significant low incidence of VUR or the need of upper pole nephrectomy with the use of laser technique [5]. From our experience, we encountered difficulties in puncturing the obstructed ureterocele at neonatal period using the electrosurgical methods due to the thickness of ureterocele wall at this stage, in addition to, the burn that occur via this technique can increase further the resistance of the ureterocele wall to the level of being behave like fibrotic tissue which usually require an increase in the cautery power in order to make a successful puncture as its demonstrated in our video. Therefore, laser is a valid alternative technique in such conditions as it's illustrated in the video.

## Material and method

A newborn baby girl with pre-natal US finding of left sided moderate hydronephrosis. The postnatal scan showed severe left sided hydronephrosis with intra vesicle cystic dilatation at distal ureter. VCUG was obtained and showed features of intravesicle ureterocele at the left side with no VUR. Baby condition remained stable and her renal function was normal. Cystoscopy laser puncture was done as demonstrated in the video via small scope 4.9F scope that fit her small sized

urethra. A small caliber of laser fibers (550  $\mu\text{m}$ ) which still allow irrigation flow thru working channel was used to make 4–6 punctures at base of the ureterocele at setting of 8 Hz of frequency and 0.8 J of pulse energy. Immediate decompression of ureterocele was observed intra operatively.

## Result and conclusion

Baby recovered well, remained free of UTI and her scan confirmed decompression of ureterocele with significant improvement in hydronephrosis at 12 weeks' time.

In conclusion, Laser puncture of ureterocele in neonate is an effective and safe alternative technique to consider in experienced hands.

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## Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.urolvj.2021.100089](https://doi.org/10.1016/j.urolvj.2021.100089).

## References

- [1] A. Hodhod, R. Jednak, J. Khriugian, M. El-Sherbiny, Transurethral incision of ureterocele: does the time of presentation affect the need for further surgical interventions? *J. Pediatr. Urol.* (2017) Mar 18pii: S1477-5131(17)30106- 7, doi:[10.1016/j.jpuro.2017.02.016](https://doi.org/10.1016/j.jpuro.2017.02.016).
- [2] A. Faure, T. Merrot, Q. Sala, et al., Value of diagnosis imaging in the evaluation of the severity of histological lesions in duplex systems, *J. Pediatr. Urol.* 10 (2014) 361–367.
- [3] J. Jawdat, S. Rotem, S. Kocherov, A. Farkas, B. Chertin, Does endoscopic puncture of ureterocele provide not only an initial solution, but also a definitive treatment in all children? Over the 26 years of experience, *Pediatr. Surg. Int.* 34 (2018) 561–565.
- [4] P. Caione, S. Gerocarni Nappo, G. Collura, E. Matarazzo, M. Bada, L. Del Prete, et al., Minimally invasive laser treatment of ureterocele, *Front. Pediatr.* 7 (2019) 106.
- [5] P. Ilic, M. Jankovic, M. Milickovic, S. Dzambasanovic, V. Kojovic, Laser-puncture versus electrosurgery-incision of the ureterocele in neonatal patients, *Urol. J.* 15 (2018) 27–32.

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