Fetoscopic laser perforation of ureterocele causing bladder outlet obstruction

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Objective

An ureterocele is a cystic dilatation of the intravesical submucosal ureter. It can be detected by prenatal ultrasound (US), but is rarely a cause of fetal bladder outlet obstruction.

Methods

Case report.

Results

An healthy 30 year-old G1P0 female presented at 22+3 wks with an obstructive fetal (ceco)ureterocele causing anhydramnios, megacystis, bilateral hydronephrosis and enlarged, echogenic kidneys, more pronounced on the right side. After extensive counseling about all options, the parents opted for invasive fetoscopic laser puncturing of the ureterocele. At fetoscopy at 22+6 wks, urinary electrolytes and karyotype were sent. The ureterocele was successfully punctured and decompressed with a Diode laser at 30 Watts. Subsequent ultrasounds revealed a decompressed thick walled fetal bladder, with normalization of amniotic fluid volume (AFV), renal size and echogenicity over the next 2 weeks. The patient elected to terminate the pregnancy at 24+3 wks, largely based on the pre-laser ß2-microglobulin value of 20. 9 mg/L. Fetal urinary sodium was 123 mmol/L, chloride 100 mmol/L and calcium 1. 69 mmol/L, all markedly elevated for gestation. QF-PCR was normal (46, XX). ß2-microglobulin sent on the postmortem specimen had decreased to 5. 5 mg/L, urinary sodium was 108 mmol/L and urinary chloride was 77 mmol/L. Pathology revealed a duplicated left renal system with one non-patent ureter (blind-end at the bladder), a severely cystic dysplastic left kidney and a right hydronephrotic kidney with a patent ureter. The proximal urethra was dilated (consistent with ureterocele herniation site) and the remainder of urethra was slightly stenotic, although patent.

Conclusion

In-utero laser perforation of an obstructing ureterocele is feasible and may be followed by a significant improvement in fetal renal function.