A case of ureteropelvic junction obstruction with contralateral dysplastic kidney

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Objective
Ureteropelvic junction obstruction is the most common cause of significant neonatal hydronephrosis. The timing of the onset of obstruction determines the severity and prognosis. Most cases are unilateral. Bilateral cases or cases in which the contralateral kidney has dysplastic changes have a much worse prognosis. In cases of lower urinary tract obstruction and bilateral hydronephrosis, select cases may be candidates for in-utero vesico-amniotic shunting.

Methods
We present a case of a 31 year old, Gravida 2 Para 1 with fetal unilateral severe hydronephrosis and polyhydramnios diagnosed prenatally in the second trimester. Transabdominal ultrasound showed severe left hydronephrosis with an anterior-posterior (AP) diameter reaching 87mm, right hyperechoic kidney, polyhydramnios, development of hydrops and a short cervix. After two amnioreductions and two renal pelvis drainages to determine if the fetus was eligible for in-utero shunting (see Table 1); the findings were not compatible with a good postnatal prognosis. The patient subsequently went into preterm labor and delivered vaginally at 32\textsuperscript{+6} gestation.

Results
Based on our detailed scoping review of the literature (between 1946-2018) we identified similar cases published from 2004 to 2013. This appears to be the first published case of fetal urine sampling in unilateral severe hydronephrosis used to help guide management and counselling of parents.

Conclusion
This case shows that fetal urine sampling may be beneficial in select cases of unilateral severe hydronephrosis like this one, where the severely hydronephrotic kidney was the only functioning kidney as the contralateral one was dysplastic. Also, prenatal diagnosis of recurrent renal and urinary tract abnormalities in the fetus should include microarray studies, in particular looking for 17q12 familial microdeletion, as it has been associated with this presentation. This microdeletion was identified in this newborn.