

## Outcomes of fetuses with lower urinary tract obstruction treated with the SOMATEX® vesicoamniotic shunt < 17+0 weeks

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### Objective

To report the results of early second trimester vesicoamniotic shunting (VAS) in lower urinary tract obstruction (LUTO) in a consecutive series in two referral centers.

### Methods

Twelve male fetuses with the diagnosis of LUTO were treated <17+0 weeks with an 18G intrauterine shunt (SOMATEX®) under ultrasound guidance. Perinatal outcomes were prospectively recorded.

### Results

All shunts were placed successfully. The median gestational age at procedure was 15.5 weeks (range 14.3–16.6). There was one (8.3%) abortion after premature rupture of membrane. Intraabdominal shunt dislocation was observed in three cases (25%) at a median gestational age of 25.6 weeks. Oligohydramnios developed in 4/11 (36%) of pregnancies after 28 weeks. Currently, there are three ongoing pregnancies and 8 women delivered a live-born baby at a mean gestational age of 35.6 (31.1–38.5) weeks. No infant developed pulmonary hypoplasia. Postnatally, there was 1 shunt-related case of bowel perforation, 2 cases with anal atresia and 1 case with megacystis microcolon intestinal hypoperistalsis syndrome (MMIHS). Six newborns (75%) had normal renal function and 2 (25%) had renal failure.

### Conclusion

VAS < 17+0 weeks is feasible and associated with a low rate of early dislocation. VAS offers an improved chance of survival, with low pulmonary morbidity. However, there is still a significant risk of progression to renal failure pre- or postnatally.