

EP09.05 RESUME-study: international multicenter study on fetal therapy for congenital Lower Urinary Tract Obstruction (LUTO)

L.A.M. Brinkman¹, I. Gottschalk², C. Berg², S. Kohl², L.J. Salomon³, L. Daher³, N. Vinit³, B. Thilaganathan⁴, M.M. Lanna⁵, G. Pelizzo⁵, U.M. Pierucci⁵, E.M. de Santiago Álvarez⁶, R.J.M. Martinez-Portilla⁶, D.A. Martinez-Ceccopieri⁶, K. Lato⁷, R. Wenzel⁷, H. Gölbasi⁸, I. Gercik⁸, F.S.M. García⁹, A. Ortega⁹, P. Hanulíková¹⁰, L. Haslík¹⁰, M. Halaj¹⁰, S.J. Gordijn¹, C.M. Bilardo¹, M.C. Haak¹¹, E.C. Weber^{2*} and F. Fontanella^{1*}

¹UMC Groningen; ²Uniklinik Köln, Cologne; ³APHP Necker Enfants Malades, Paris; ⁴St. George's Hospital, London; ⁵Buzzi Hospital, Milan; ⁶Nuevo Hospital Civil de Guadalajara, Mexico; ⁷Uniklinik Ulm; ⁸Izmir City hospital; ⁹San Cecilio University Hospital, Granada; ¹⁰Fetal Medicine Center, Prague; ¹¹Leiden UMC
*These authors contributed equally

Introduction

Congenital LUTO is a rare but severe congenital anomaly with a high perinatal mortality and long-term renal and bladder morbidity. Fetal interventions, such as a vesico-amniotic shunt (VAS) or fetal cystoscopy are possible, but long-term benefits remain uncertain.

Primary aim

To evaluate the effectiveness of fetal intervention for the treatment of congenital LUTO on postnatal renal function.

Methods

-  Retrospective, international multicenter study (LUTO registry)
-  42 centers worldwide actively working on participation
-  VAS-placement & fetal cystoscopy vs conservative (2004-2024)
-  Standardized data collection via secure REDCap database



Results

To date, 169 fetuses from 9 fetal therapy centers are included;

- 147 VAS, 12 fetal cystoscopies and 10 combined procedures
- Median gestational age (GA) at diagnosis: 16⁺⁴ weeks & 90% male fetuses
- 8% (10/133) had a genetic abnormality
 - Most commonly ACTG2-associated MMIHS, Trisomy 21 and 18
- Associated structural anomalies in 33% of cases

VAS results:

- Median GA at first shunt placement 17⁺³ weeks, Somatex shunt used in 54%
- Complications: 31% shunt dislocation (significantly later in Somatex shunts), blockage in 6% and fetal ascites in 18%

Perinatal and postnatal outcomes:

- Termination in 18%, IUFD/ miscarriage in 10%, liveborn in 64% and 7% lost to follow-up
- Creatinine nadir in first year of life: 53% ≤0.35 mg/dL, 29% 0,35-0,80 and 19% ≥0,80 mg/dL
- Urinary incontinence at school age remains an important cause of morbidity

Conclusions

RESUME is the largest international study of congenital LUTO to date. Preliminary findings highlight the complexity of early-onset LUTO, significant procedure-related morbidity and a persistent risk of renal dysfunction among survivors.

International centers are welcome to join this retrospective registry until October 2027

For interest in participation: resume@og.umcg.nl (or scan the QR-code)

