

Short-term complications during Paediatric Invasive Urodynamics (Abstract #729)

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Background & aim

Invasive urodynamic studies (UDS) can be associated with complications.
There is little in the literature describing the adverse events (AEs) encountered when performing UDS in children.
To our knowledge, this is the **first work aiming to assess AEs during paediatric UDS.**

Study design & methods

- A retrospective, single-centre review of paediatric invasive UDS between January 2020-March 2022.
- Data extracted from an excel database completed for audit purposes immediately after the study.
- Studies performed according to ICCS, ICS, UKCS guidelines.
- All UDS commenced in the supine position. Patient moved to standing position, if able to stand unsupported. Cystometry was carried out supine or seated.

Data collected

*Patient demographics (age & gender)	*UDS investigation (cystometry/Videourodynamics)
*Diagnostic category	*Method of catheterisation
*Sedation-if needed	*Adverse events: patient-, investigation- and catheter-related.

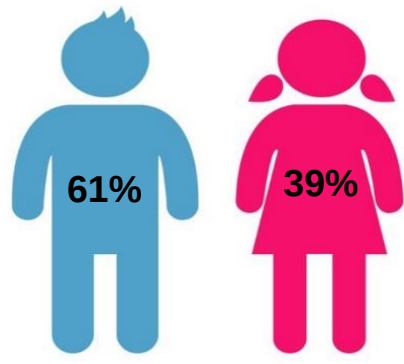
Results and interpretation

602 studies reviewed
(566 VUD, 36 cystometry)

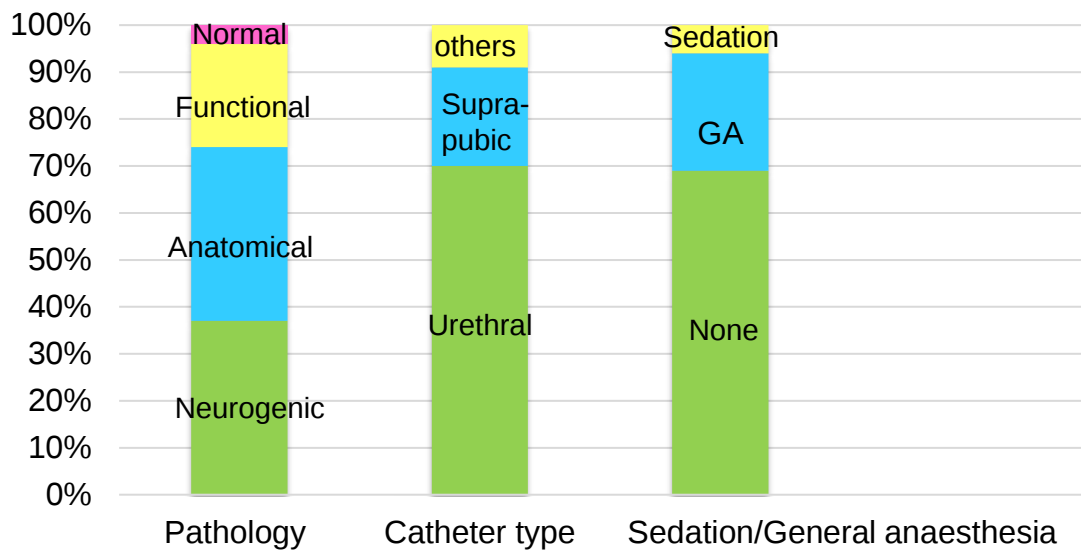
Complication section
completed in 84%
(503 cases)

99% studies were
successfully completed.
(499 cases)

Group characteristics



Median age at study date:
9 years (2 months-18 years).



Adverse events numbers

- 84 AEs occurred in 71 studies.
- 1:7 children (14%) experienced an AE during UDS.
- 4.2 % (21 studies) experiencing more than one AE.
- Most AEs are categorised as mild with none experiencing anything worse than Grade1 CTCAE*

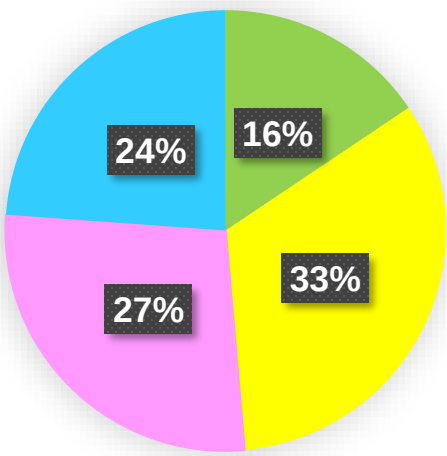
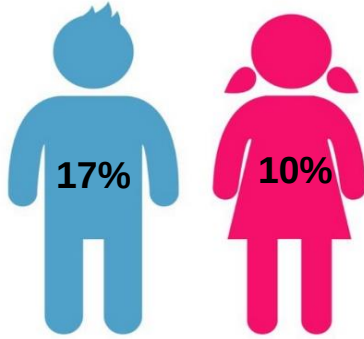
Table 1: Adverse events encountered:

Adverse event	Number (%)
1 Patient-related	41 (8.2 %)
Voiding failure	22 (4.4%)
Patient- anxiety	13 (2.6%)
Dizziness	5 (1%)
Fainting	1(0.2%)
2 Investigation-related	33 (8.6%)
Failure to answer UD Q	21 (4.2%)
Unreliable or unrecorded traces	11 (2.2 %)
Suspected high radiation dose	1(0.2%)
3 Catheter related	10 (1.9%)
Catheter displacement	5 (1%)
Difficult catheterisation	2 (0.4%)
Extravasation	2 (0.4%)
Large bladder clot	1 (0.2%)

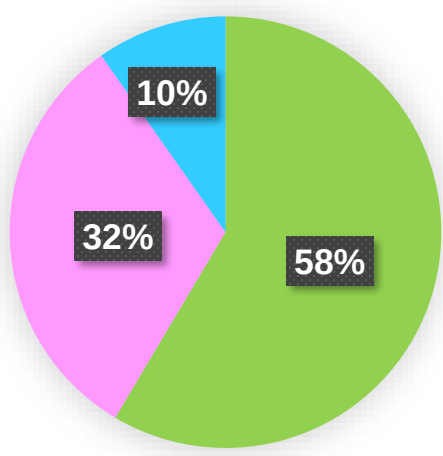
Voiding failure: Most common AE, in-part related to patient anxiety.
Higher incidence with SPC: 13% of SPC patient vs 2% with urethral catheter.

Suspected high radiation dose:
Investigated in a 125 kg, 169 cm 11-year-old girl. Following formal safety review the dose was within the local dose reference levels (LDRL) for adults in keeping with her auxology.

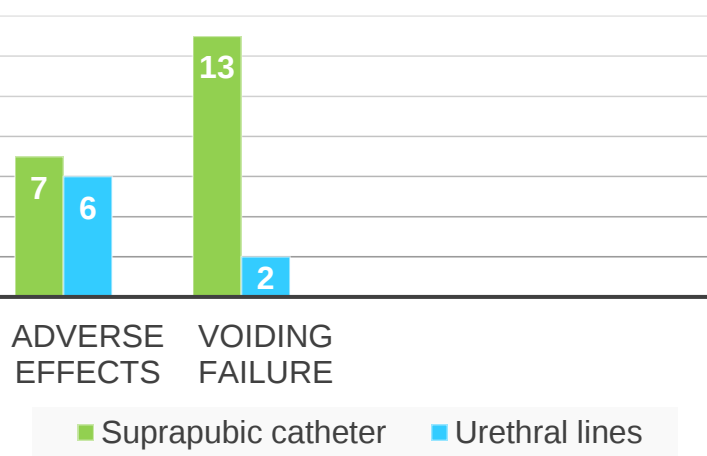
Incidence of AEs among different categories



<1 y
1-5 ys
5-12 ys
> 12 ys



anatomical
functional
neurogenic



Conclusion

This study provides a single centre review of AEs encountered whilst performing invasive urodynamics in children.
Urodynamics in children is associated with mild adverse events in 1:7 children.
The data presented here will aid clinicians in preparing and consenting children and families for this invasive investigation.
It identifies areas where improvements can be made and provides initial benchmarking data for audit.

References

1 Common Terminology Criteria for Adverse Events (CTCAE) v5, 2017 Nov
2 Reynard JM, Lim C, Swami S, Abrams P. The obstructive effect of a urethral catheter. J Urol 1996;155:901e3.
3 Bhandarkar K, Giannetoni A, Mishra P, Paul A, Clothier J, Manuele R, Solomon E, Garriboli M, Wright A, Taghizadeh AK. Morbidity following suprapubic line insertion for videourodynamics in children. J Pediatr Urol. 2023 Jun