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**URODYNAMIC STUDIES IN THE FETAL LAMB:
EXPERIMENTAL PROTOCOL AND PRELIMINARY RESULTS**

Aim of Study: To produce a fetal lamb model in which an implanted bladder catheter would allow to study urodynamic patterns during gestation.

Methods: Fourteen fetal lambs underwent placement of a bladder catheter at mean gestation of 87 days. Three fetuses also had a partial urethral obstruction by simultaneous placement of an anterior urethral ring. Urodynamic studies were performed weekly using a natural filling cystometry method under ultrasound guidance.

Results: 106 voiding cycles were recorded during 25 urodynamic studies between 84 and 133 days gestation. All voiding profiles were biphasic with mean duration of 4.2 minutes; mean voiding pressure of 23 cm of water and mean periodicity 19.2 minutes. The obstructed animals had bladder overactivity. This correlated with ultrasound and post-mortem findings of megacystis and bilateral hydroureteronephrosis.

Conclusions: This method allowed serial urodynamic studies to be performed in the fetal lamb from 84 days gestation. Initial effect of partial urethral obstruction was to produce bladder overactivity.

References:

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3. OConnor LT, Vaughan ED, Felsen D. In vivo cystometric evaluation of progressive bladder outlet obstruction in rats. *J Urol* 1997;158(2):631-5.