

Development of an animal model - sheep- for training in vaginal surgery for Pelvic Organ Prolapse

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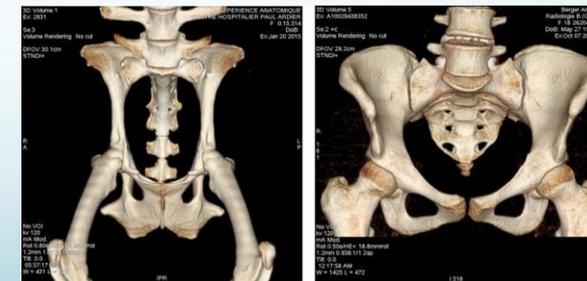
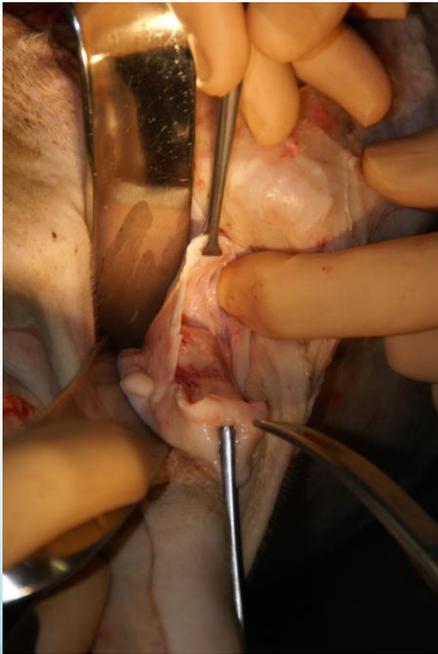
Development of an animal model -sheep- for training in vaginal surgery for Pelvic Organ Prolapse

- There are multiple types of training model including mechanical, virtual reality, stimulators and animal models for training in laparoscopy
- These models are almost inexistant for training in vaginal surgery
- Aims of the study
 - Evaluate the feasibility and usefulness of an ovine model for training in vaginal surgery for POP



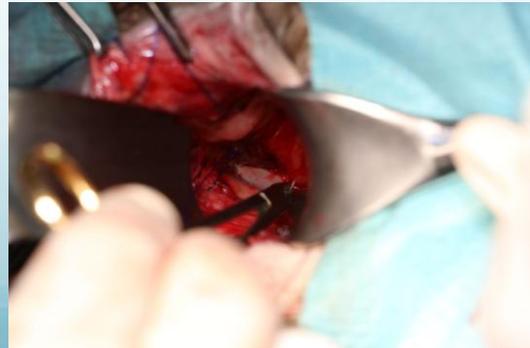
Materials and Methods

- 3 sessions of vaginal surgery for POP and dissection of 3 female multiparous old fresh cadavers of sheep
- The feasibility of POP surgery on cadavers led to a session on alive sheep under general anesthesia in C.I.C.E of Clermont-Ferrand
- All the ewes were more than 10 years old and Grand multiparous
- 4 senior uro-gynecologists and 4 residents attended these sessions
- The sheep were installed in a dorsal lithotomy position
- POP-Q classification and mean values were taken
- Pelvic examination was performed to palpate bones, muscles and ligaments of the pelvis
- All types of vaginal surgery were done with autologous tissue or mesh surgery
- A pelvi-scan was done on one animal and the structures were compared to the pelvis of a woman.





- Similarities with human female vagina were found
- The 4 animals had stage 4 POP
- The same anatomical structures usually used to do POP surgery were found
 - Obturator foramen for trans-obturator arms techniques
 - Arcus tendineous levator ani
 - Sacro-tuberal ligament for apex fixation
- All operations usually done for POP were successfully achieved
 - Traditional Anterior Repair
 - Enterocele exclusion, traditional posterior repair, levator ani myorrhaphy
 - Anterior mesh for anterior vaginal wall prolapse
 - TOT



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PROSPECTS



- **TRAINING AND IMPROVEMENT IN VAGINAL SURGERY FOR POP**
 - Sessions will start in University of Clermont-Ferrand – C.I.C.E. first trimester of 2016 for residents and senior surgeons
 - Provide to industry an animal model to teach new operations for mesh implantation or sub-urethral tapes
 - This training may in the future, reduce learning curves and mesh related complications
- **PROVIDE AN ANIMAL MODEL FOR EXPERIMENTAL STUDIES TO TEST BIOMECHANICAL PROPERTIES AND TISSUE INTEGRATION OF MESH IN A MODEL VERY SIMILAR TO VAGINA OF WOMEN**
 - Same implantation region : the vagina
 - Same size of mesh
 - Same operative technique