

VALIDATION OF THE LAGOMORPH ANIMAL MODEL FOR TRAINING AND SKILLS ACQUISITION ON NEONATAL LAPAROSCOPIC SURGERY

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Background: It is widely accepted that laparoscopic surgery requires previous training which must be performed outside the surgical theatre. Nevertheless, in paediatric surgery not many models can be found for the safe practice of neonatal laparoscopic surgery. We propose to demonstrate the validity of the rabbit as an animal model for training and skills acquisition on neonatal paediatric laparoscopic surgery.

Methods: The proposed animal model has been used during the last three consecutive editions of our annual Course on Paediatric and Neonatal Laparoscopic Surgery, after approval by the ethics and animal welfare committee of our centre. During these training activities attendants firstly acquired the necessary basic abilities on laparoscopic surgery by performing different tasks, hands-on physical simulator on organic and inorganic tissues. New Zealand rabbits with an average weight of approximately 3,5kg were used as animal model. On these animals different techniques were performed, including gastrotomy, pyloromyotomy, Nissen fundoplication, and nephrectomy, using 3mm diameter microlaparoscopy instruments. Once the training activity was finished, this animal model was evaluated on a Likert numeric scale (1 =minimum, and 5=maximum) by each attendant, through an online questionnaire composed of 15 different questions.

Results: A total number of 36 surgeons attended the 3 mentioned course editions, from which 19 answered the online questionnaire (52,7%). All of them had no previous experience in laparoscopic surgery. The question with the highest score concerned “if they considered necessary to include the rabbit as animal model in training programs for paediatric surgery” (4,8±3 points). On the other hand, the worst score was attributed to “anatomic similarity with human anatomy” (3,5±0,6 points). All other questions regarding model’s usefulness obtained a score ≥ 4 points.

Conclusions: The proposed animal model for training on neonatal laparoscopic surgery was very positively valued, with the attendants considering its inclusion in paediatric surgery training programs as necessary.

