

SIII5: AN EFFICIENT HOME MADE SIMULATION MODEL FOR LAPAROSCOPIC PYLOROMYOTOMY

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Background A key concern regarding laparoscopic pyloromyotomy (LP) lies with the process of learning this skill. Surgical procedures and especially laparoscopic procedures require a minimal number of procedures before the technique is safely performed. Respective learning processes for open and LP appear to be different, with a higher and earlier increased risk of perforation or incomplete pyloromyotomy for LP. Our aim was to develop a simple and validated simulation tool to reduce these specific complications.

Materials and methods A model of hypertrophic pyloric stenosis (HPS) was created and inserted in a Paediatric Laparoscopic Surgery (PLS) simulator. First, the reproducibility of model assembly was evaluated by sending a „do it yourself simulation kit” of HPS to different centers. In the second phase, a cohort of paediatric surgeons, considered as experts, completed a 6-item questionnaire, using a four-point scale about model’s realism and accuracy. The third phase consisted in recruiting trainees to test the LP simulator. Evaluation of the LP procedure was performed using a dedicated Objective Structured Assessment of Technical Skills (OSATS). Three groups were enrolled for the final validation of this model: experts, surgical fellows and medical students.

Results Reproducibility of the model construction was considered as satisfactory. A total of 57 participants were enrolled in this study, including 15 experienced surgeons, 25 surgical residents and 17 medical students. Paediatric surgeons agreed that the model accurately simulated essential components of the pyloromyotomy (mean 3,03 ± 0,7). Concerning OSATS scores, paediatric surgeons performed significantly ($p < 0,001$) better (26,2 ± 1,7) than surgical residents (21,3 ± 3,1) and students (18,0 ± 2,7).

Conclusions This model appears simple, reproducible, and cheap but accurate enough as a support to teach LP. These arguments could promote this model as an efficient tool for early and effective LP simulation teaching in our fellow teaching program.

Key words pyloromyotomy, laparoscopic, simulation, teaching