IMPACT OF THE LAPAROSCOPIC SIMULATION PROGRAM IN HEPATOPANCREATOBILIARY SURGERY

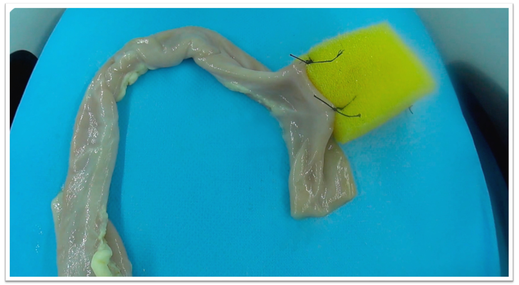
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INTRODUCTION:

Hepatopancreatobiliary surgery (HPB) has been described as one of the most challenging surgical branches within laparoscopic surgery. Simulated training facilitates the acquisition and transfer of skills in laparoscopic surgery. Within this area, choledochojejunal anastomosis (CYA) and pancreatojejunal anastomosis (PYA) are considered complex procedures, therefore mastering their learning curves reduces morbidity.

PANCREATOJEJUNAL ANASTOMOSIS



CHOLEDOCHOJEJUNAL ANASTOMOSIS



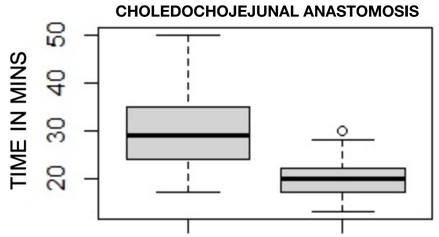
MATERIALS AND METHODS:

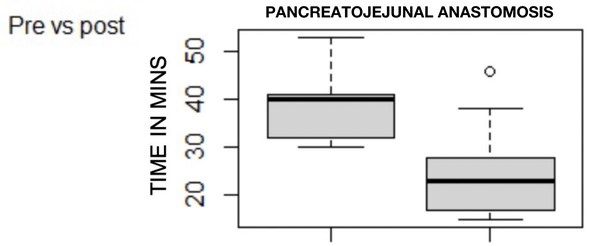
- Surgery residents or surgeons who completed a simulation training program in basic and advanced laparoscopic skills, were included.
- No participant was excluded
- Participants underwent a structured simulation program in which the performance of a CYA and a PYA was trained using ex-vivo animal tissue in addition to synthetic low-cost materials.
- Procedural time, patency and leakage of the anastomoses were documented at the beginning and end of the training program (Pre and Post test assessments)

RESULTS:

- 11 participants were recruited and attended the structured simulation program.
- 21 sessions were carried out.
- Time, permeability and leakage were measured in each session.
- Training significantly decreased pre-post test leakage rate from 54 to 0% and from 63% to 0% in CYA and PYA respectively.
- No significant changes were found in permeability regarding pre and post tests.
- Regarding procedural time, a significant decrease was observed, from 29.0(24-34) to 20.0(17.2-22) minutes in CYA, and from 38.9(32-41) to 24.6(17-28) in PYA.

	PRE	POST
PERMEABILITY (%) CYA	100%	100%
LEAKAGE (%) CYA	54%	0%
PERMEABILITY (%) PYA	100%	100%
LEAKAGE (%) PYA	63%	0%





Pre vs post

CONCLUSIONS:

A structured simulation program with in-person feedback and deliberate practice decreases CYA and PYA filtration rates and operative time under a simulated environment. Further studies are required to assess the transfer of these skills to the surgical ward. Based on this experience, this program is being mounted in an online platform which permits remote and asynchronous feedback in order to reach a larger number of participants and thus further validate the acquisition and transfer of the aforementioned skills.

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