

SIV5: WHICH FACTORS EFFECT THE RECURRENCE RATE IN PAEDIATRIC LAPAROSCOPIC HERNIA REPAIR. A REVIEW

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Background The open approach has been the standard treatment for inguinal exploration for years. Laparoscopic inguinal hernia repair has recently become an alternative as a treatment in pediatric patients. But high recurrence rate is still the main concern. Many different laparoscopic techniques or tricks have been developed for laparoscopic inguinal hernia repair to decrease the recurrence rates. This article presents a review focused to compare the recurrence rates of all series of laparoscopic hernia repairs.

Materials and methods All published studies on laparoscopic paediatric hernia repair until December 30, 2015, were searched with the terms of pediatric laparoscopy inguinal hernia repair from Medline (using PubMed as the search engine), with 2000, which the date first male series was reported, as lower date limit. All the abstracts of these studies were investigated whether the manuscript was eligible. Other eligible studies found in reference lists of full text manuscripts were also searched in PubMed. All abstracts, and full text of relevant studies were independently evaluated by two reviewers (AY, AO). Any disagreements were solved with consensus by two authors. During the abstract research no language restrictions were imposed but the fulltext research was restricted to studies published in the English language. Data regarding the following factors were considered by two reviewers independently: first author, publication date, laparoscopic technique, sutures used, technique used to close the ring, recurrence rates. Recurrence rates reported in authors' manuscripts were used to compare. If it was reported as numbers, recurrence rates were calculated as a percentage. Eligibility criteria included laparoscopic paediatric hernia repair with quantitative data on outcome of recurrence rates/numbers. The pediatric population was described as cases younger than 18 years. In case of possible overlap of the different publications, only the most recent study was used. Recurrences occur mainly in male cases therefore, studies including solely female cases were excluded. Series focusing solely on specific conditions such as recurrences or atypical hernias, were also excluded.

Results All results of the manuscripts were evaluated in terms of changes in recurrence rates over the years. No statistical differences in recurrence rates over the years in favour of decrease or increase was found ($P=0.861$). But range of the data seems very wide, it is not obvious. Comparing the intra and extracorporeal laparoscopic approaches showed that the recurrence

rates was less in extracorporeal approaches than intracorporeal one with statistical differences ($P=0.012$). There was a strong correlation with complete ring closure when comparing complete and incomplete ring closure groups ($P=0.001$).

Comparing of the groups according to type of the sutures revealed that in manuscripts using of the nonresorbable suture materials declared less recurrence rates than resorbable suture materials ($P=0.001$). Recurrence rate difference between the manuscripts used peritoneal incision with manuscripts without peritoneal incision was not observed. No significant statistical difference between these two groups existed ($P=0.073$).

Conclusions As a conclusion, although the experience of the surgeon can decrease their own recurrence rates over time, we state that paying attention to some certain important points has also great importance.

Key words hernia, laparoscopy, recurrence