

RISK FACTORS OF RECURRENCE AND CONTRALATERAL INGUINAL HERNIA AFTER LAPAROSCOPIC PERCUTANEOUS EXTRAPERITONEAL CLOSURE (LPEC) FOR PEDIATRIC INGUINAL HERNIA

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Aim of the Study: Laparoscopic percutaneous extraperitoneal closure (LPEC) for paediatric inguinal hernia has recently been gaining popularity. Recurrence and contralateral metachronous inguinal hernia (CMIH) are important problems for LPEC. This study analysed the risk factors for these problems.

Methods: Our institution started LPEC for essentially all patients with inguinal hernia in July 2008. This study included 1530 patients who underwent LPEC from July 2008 to December 2015. The mean follow-up period was 45 months. Of 1030 patients, 867 were boys and 683 were girls. The mean age at the time of operation was 3.9 years; mean body weight was 15.1 kg. Asymptomatic contralateral internal ring was routinely observed in the operation, and when patent processus vaginalis (PPV) was confirmed, prophylactic surgery was performed regardless of the size of patency.

Main Results: Recurrence was seen in 0.48% of the patients (8/1653 sides). CMIH was seen in 0.22% of the patients (3/1382). All cases of recurrence and CMIH occurred in male patients, with rates of 0.88% and 0.39%, respectively. On the basis of these results, we focused on the differences between the sexes (Table). Asymptomatic contralateral PPV was confirmed in 40.6% of male unilateral patients and 49.6% female unilateral patients ($p < 0.01$). In male patients, the rate of recurrence occurring within 1 year was confirmed as 2.13% and that occurring after 1 year or later as 0.44% ($p = 0.03$).

Conclusion: In our study, recurrence and CMIH were seen only in boys. In addition, the patency rate of contralateral PPV was higher in girls. During operations for male patients, care was taken to prevent damage to the sperm duct and testicular blood vessels. This seemingly affected our procedure and observation. In conclusion, we must be more careful when male patients, especially those aged less than 1 year, undergo LPEC.

Table. Comparison in each sex

	male	female	p value
case	847	683	
side (right/left/bilateral)	473/307/67	313/314/56	<0.01
mean age (year)	3.25	4.67	<0.01
mean body weight (kg)	14	16.5	<0.01
mean follow-up period (month)	44.8	45.3	0.06
mean operative time			
unilateral (min)	22.8	18.8	<0.01
bilateral (min)	28.3	23.1	<0.01
patency rate of contralateral PPV (%)			
total	40.6	49.6	<0.01
right side	39.4	42.6	0.37
left side	42.4	56.5	<0.01
incidence of CMIH (%)	0.39	0	0.12
recurrence rate (%)	0.88	0	0.01

PPV: patent processus vaginalis CMIH: contralateral metachronous inguinal hernia

