



## Original Articles

### Is Routine Contralateral Exploration Necessary while Doing Herniotomy for Unilateral Inguinal Hernia in Children?

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#### Abstract

Routine contralateral exploration in infants and children with unilateral inguinal hernia has been practiced by a number of paediatric surgeons based on a presumed high incidence of patent processus vaginalis. Our aim is to report the incidence of contralateral manifestations after repair of unilateral inguinal hernia. A total of 217 patients were regularly followed-up at the department of paediatric surgery in Dhaka Medical College Hospital (DMCH) and Bangabandhu Sheikh Mujib Medical University (BSMMU) from February 1995 to June 2001 in order to determine if contralateral hernia developed after unilateral herniotomy. The overall incidence of contralateral manifestations was 6.45%. The average incidence for contralateral hernia in infants upto 1 year was 11.68%. However, the incidence fell significantly in older children. With such low incidence of contralateral hernia after unilateral herniotomy, the authors do not feel to recommend contralateral exploration for unilateral inguinal hernia.

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#### Introduction

Routine contralateral exploration while performing unilateral herniotomy in children was a debatable issue for long. Proponents for routine contralateral exploration based their arguments on the finding of high incidence of patent processus vaginalis.<sup>1, 2</sup> Later on, contralateral exploration was restricted to infants only as after that age the incidence of patent processus fell remarkably<sup>3-5</sup>. But in 1993 an interesting survey<sup>6</sup> showed that a good number of the respondents would prefer to explore contralateral side routinely. Nonetheless, recent trends depict a persisting lower incidence of contralateral exploration<sup>7,9</sup>. In Bangladesh, we routinely do not explore contralateral side. With this study we have tried to find out the actual

incidence of contralateral hernial development after unilateral herniotomy in children.

#### Materials and Methods

From February 1995 through June 2001, a total of 247 infants and children with unilateral inguinal hernia were treated at the department of paediatric surgery in Dhaka Medical College Hospital (DMCH) and Bangabandhu Sheikh Mujib Medical University (BSMMU). All these patients underwent unilateral herniotomy. They were followed-up at 6-months interval to ascertain manifestation of contralateral hernia. The patients who failed to follow-up were not included in the study.

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## Results

Of the 247 patients, 30 were lost to follow-up (12.15%). Among the 217 patients who followed-up regularly, 166 (76.5%) were boys and 51 were girls; 121 (55.76%) had right-sided while 96 had left hernia. The age at which herniotomy was done ranged from 1 month to 12 years.

The Total number of contralateral hernial development was 14 (6.45%). The whole patient population was divided, according to age, into six sub-groups and the incidence of contralateral manifestation was shown in different age (Table-1). The incidences in infants below 6 month and infants from 6-month to 1 year were 12.50% and 10.87% respectively. The incidence declined significantly as the age increased. For children 1-2 year old it was 5.5%, 2-3 year old it was 4.76% and for 3-4 year the incidence was 3.3%. The incidence was lowest i.e. 1.94% for children 4-12 year old.

**Table 1:** Age-dependent incidence of contralateral hernia.

Age	Below 6 month	6 month-1 year	1 year-2 year	2 year-3 year	3 year-4 year	4 year-12 year
Number	32	46	36	21	30	52
Contralateral manifestation	4	5	2	1	1	1
Percentage (%)	12.50	10.87	5.5	4.76	3.3	1.94

## Discussion

Routine contralateral exploration has been advocated in some textbooks<sup>10, 11</sup> of paediatric surgery. This entails potential risk of surgical injuries to the vas deferens or the spermatic vessels. This recommendation was based on reports that 47.3%<sup>12</sup> of infants under 1 year of age and 31%<sup>13</sup> of patients under 2 years of age had a contralateral hernia after unilateral repair. But recent paediatric surgeons found a lower incidence of contralateral hernia following unilateral repair. Surana and Puri<sup>8</sup> in 1993 observed 10.3% incidence in 116 infants, and Nazir and Saeb<sup>9</sup> in 1996 found 10.6% incidence in 161 patients. These recent investigators opined that routine

contralateral exploration was not justified. Our current study supports and confirms a similar lower incidence of contralateral hernial development (6.45%).

Development of contralateral hernia in a child with unilateral hernia is dependent on two factors: presence of patent processus vaginalis or presence of any increased intra-abdominal pressure. It has been found that 70-75% infants with unilateral hernia do have a patent processus on the contralateral side but only 15-20% of them would develop a subsequent hernia<sup>14</sup>. It is, therefore, advisable that one should not proceed on contralateral exploration merely on the basis of high incidence of patent processus. However, for patients with increased intra-abdominal pressure (e.g. ventriculo-peritoneal shunt, ascites, peritoneal dialysis etc.), it is advisable to undertake bilateral exploration.

Our study showed that the incidence of contralateral manifestation was highest (12.5%) in infants below 6 months of age and second-highest (10.87%) in infants 6 months to 1 year of age. Moreover, it also showed that in children older than 1 year, the incidence fell significantly. We can surmise from our results that children older than 1 year with unilateral hernia have very negligible risk of developing contralateral hernia at later life. Now, the vital question is: Is it reasonable to explore the contralateral side in infants under 1 year with unilateral hernia about 88.32% patients will have an unnecessary surgery; on the other hand, if we defer the exploration on the contralateral side and observe them for development of contralateral hernia, only 11.68% would then be repaired safely.

Surgeons may be embarrassed by contralateral hernial development but we think a little of parental counselling regarding such eventuality in small percentage can make things much better.

Finally, we can conclude from our current study and also from other relevant papers that, the

incidence of development of contralateral hernia is quite low and that it does not justify routine contralateral exploration in infants and children with unilateral inguinal hernia.

## References

- McLaughlin CW, Kleager C. The management of inguinal hernia in infancy and early childhood. *Am J Dis Child* 1956; 92:266-271.
- Mueller CB, Rader G. Inguinal hernia in children. *Arch Surg* 1956; 73:595-597.
- Raffensperger JG. Inguinal hernia, in Raffensperger JG (Ed): *Swanson's Paediatric Surgery* (5<sup>th</sup> ed), Norwalk CT, Appleton & Lange, 1990; 121-134.
- Grosfeld JL. Groin hernia in infants and children, in Nyhus LM, Condon RE (eds) *Hernia* (4<sup>th</sup> ed), Philadelphia, PA, Lippincot, 1995; 93-110.
- Rescorla FJ. Hernias and umbilicus, in Oldham KT, Colombani PM, Foglia RP (eds). *Surgery of infants and children*. Philadelphia, PA, Lippincot-Raven, 1997; 1069-1081.
- Wiener ES, Touloukian RJ, Rodgers BM, et al: Hernia survey of the Section on Surgery of the American Academy of Paediatrics. *J Paediat Surg* 1996; 31:1166-1169.
- Muraji T, Noda T, Higashimoto Y, et al. Contralateral incidence after repair of unilateral inguinal hernia in infants and children. *Paediatr Surg Int* 1993; 8: 455-57.
- Surana R, Puri P. Is contralateral exploration necessary in infants with unilateral inguinal hernia? *J Paediatr Surg* 1993; 28: 1026-27.
- Nazir M, Saebo A. Contralateral inguinal hernial development and ipsilateral recurrence following unilateral hernial repair in infants and children. *Acta Chir Belg* 1996; 96:28-30.
- Rowe MI, Lloyd DA. Inguinal hernia, in Welch KJ, Randolph JG, Ravitch MM, et al (eds) *Paediatric Surgery* (4<sup>th</sup> ed). Chicago, IL, 1980; 779-793.
- Weber TR, Tracy TF. Groin hernias and hydrocoele, in Ashcraft KW, Holder TM (eds) *Pediatric Surgery* (2<sup>nd</sup> ed), Philadelphia, PA, Saunders. 1993; 562-570.
- Bock JE, Soybe JV. Frequency of contralateral inguinal hernia in children. *Acta Chir Scand* 1970; 136: 707-709.
- Kiesewetter WB, Parenzan L. When should hernia in infant be treated bilaterally? *JAMA* 1959; 171:28-290.
- Rathauer F. Historical overview of the bilateral approach to paediatric inguinal hernia. *Am J Surg* 1965; 150:537-532.

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