

The Sociodemographic Characteristics of Nonpalpable Testes in Children Undergo Laparoscopy Surgery in Bangladesh

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ABSTRACT

Objectives: In this study our main aim is to evaluate the socio demographic characteristics of non-palpable testes in children undergo laparoscopy surgery in Bangladesh.

Methods: This cross-sectional observational study was done in the department Pediatric Surgery, Dhaka Shisu (Children) Hospital (DSH), Dhaka, from March 2010 to September 2011. The study included 30 children with nonpalpable testis either unilateral or bilateral.

Result: During the study, 37% patients belong to 2-5-year age group. Followed by 26% in 5-10 years age group, 20% 1-2 years age group. (50%) cases, diagnosed by laparoscopy as vas and vessel entered into deep ring underwent planned inguinal exploration. 40% belong to full term whereas 60% belong to pre-term.

Conclusion: From our study we can conclude that, Laparoscopic orchiopexy were done by either single stage or two staged Fowler - Stephens method, needs to be evaluated

on large group of patients with longer follow-up.

Keywords: Sociodemographic Characteristics, Nonpalpable Testes, Laparoscopy Surgery.

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Article History:

Received: 23-11-2019, Revised: 19-12-2019, Accepted: 15-01-2020

Access this article online

Website: www.ijmrp.com	Quick Response code 
DOI: 10.21276/ijmrp.2020.6.1.023	

INTRODUCTION

Cryptorchidism is distinct from monorchism, the condition of having only one testicle. Though the condition may occur on one or both sides, it more commonly affects the right testis. A phenotypically male newborn with bilateral nonpalpable testicles should be considered to be a genetic female with congenital adrenal hyperplasia until proved otherwise. Congenital adrenal hyperplasia may rarely present with a normal male phenotype and is a life-threatening condition. Ultrasound examination of the pelvic structures, karyotyping and measurements of serum electrolytes, testosterone, müllerian-inhibiting hormone, and adrenal hormones and metabolites (17-hydroxyprogesterone) should be considered in the initial evaluation. An older child with bilateral non-palpable testicles should be evaluated hormonally for testicular absence.¹⁻⁴ Laparoscopy was first used by Cortesi to diagnose impalpable undescended testes in 1976 and later Lowe reported a large series of diagnostic laparoscopy in cases of impalpable testes.

Only after 1990, laparoscopy was used for the treatment of impalpable testes as the urologists gained experience with the method and since then laparoscopic orchiopexy (fixing the testis into scrotum) and orchiectomy (excising testicular remnant) have been increasingly used.⁵

In this study our main goal is to evaluate the sociodemographic characteristics of nonpalpable testes in children undergo laparoscopy surgery in Bangladesh.

OBJECTIVE

General Objective

- To assess the efficiency of ultrasonography in detecting nonpalpable testes in children Bangladesh.

Specific Objective

- To identify gestational age at birth
- To detect outcome of laparoscopy

METHODOLOGY

Type of Study: Cross-sectional observational study
Place of Study: Department of Pediatric Surgery, Dhaka Shisu(children) Hospital (DSH), Dhaka.
Study Period: March 2010 to September 2011.
Study Population: The study included 30 children with nonpalpable testis either unilateral or bilateral.
Sampling Technique: Purposive
Method: During the study, the principal investigator had collected the data and evaluated the relevant investigations in the department of pediatric Surgery, Dhaka Shisu (children) Hospital.

A Data sheet was filled out during data collection. In each case, information about the patient was collected in a prescribed questionnaire after getting written consent from the parents or legal guardians in a preformed consent form.
Data Analysis: Statistical analysis was performed using the Statistical package for social science SPSS version 15.0. A descriptive analysis was performed for clinical features and results were presented as mean ± standard deviation for quantitative variables and numbers (percentages) for qualitative variables. Fisher's exact test was used for categorical variables. All p-values were considered as statistically significant if < 0.05.

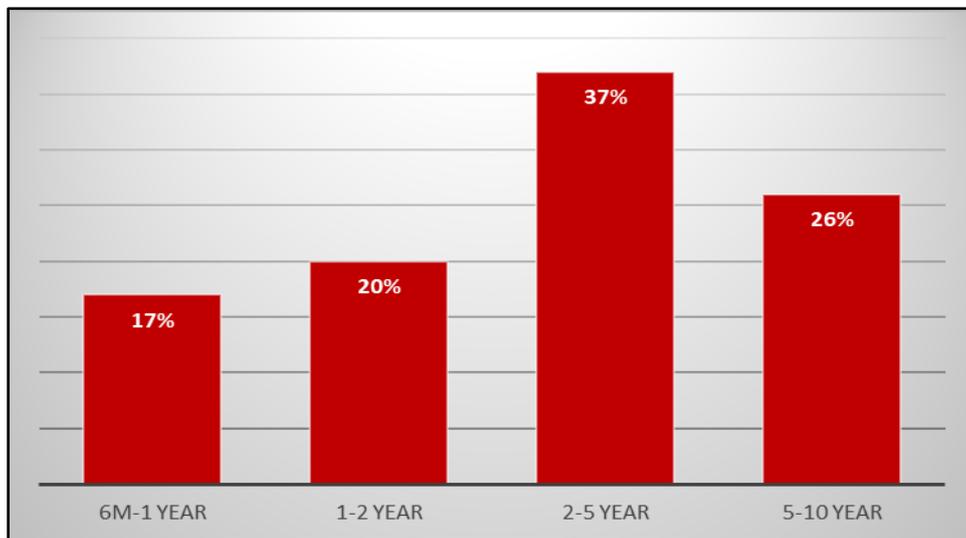


Figure-1: Frequency of age group of the patients.

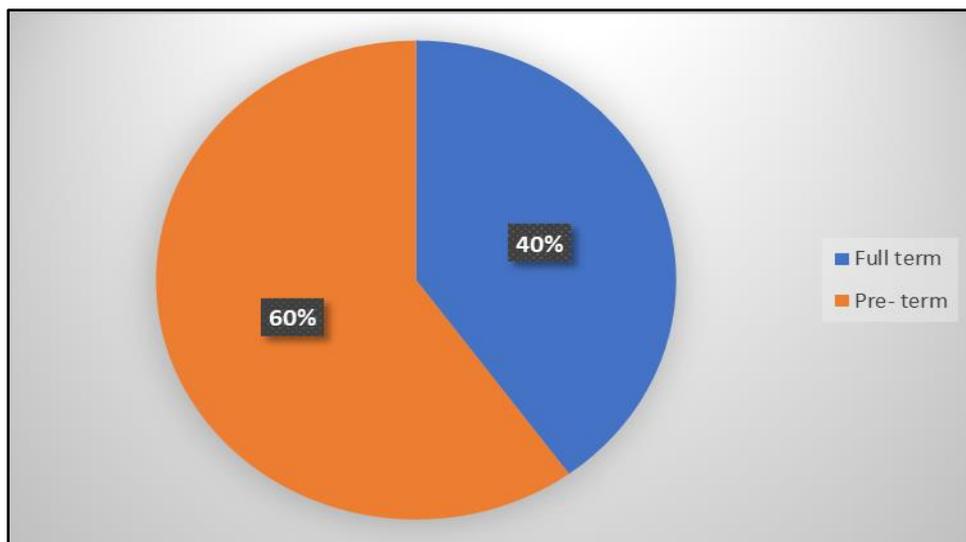


Figure-2: Distribution of patients according to gestational age at birth.

RESULTS

In figure-1 shows frequency of age group of the patients where 37% patients belong to 2-5 year age group. Followed by 26% in 5-10 years age group, 20% 1-2 years age group.
 In figure-2 shows distribution of patients according to gestational age at birth where 40% belong to full term whereas 60% belong to pre-term.
 In table-1 shows frequency of patients according to side effected where Left sided impalpable testis was predominant as 11 patients, then the right side 05 patients.

In table-2 shows frequency of the patients according to location of testes where inguinal canal 19 patients and abdominal 02 patients. In table-3 shows association between affected sides with gestational age at birth where bilaterally affected were associated with Pre-term. Fisher's exact test was done to measure the level of significance. Result was significant (p<0.05).
 In table-4 shows frequency of the patients according to outcome of laparoscopy where (50%) cases, diagnosed by laparoscopy as vas and vessel entered into deep ring underwent planned inguinal exploration.

Table 1: Frequency of patients according to side effected

Side	Frequency (No.)
Left side only	11
Right side only	05
Bilateral	14
Total	30

Table 2: Location of testes (30 patients with 44 NPT)

Location	Frequency
Inguinal canal	19
Intra- abdominal	02
Not visualized	23
Total	44

Table 3: Association between affected sides with gestational age at birth.

Side	Gestational age		p Value
	Full term (%)	Pre-term (%)	
Unilateral (16)	12(40)	04(13)	<0.05
Bilateral (14)	00	14(47)	
Total	12	18	

Table 4: Frequency of the patients according to outcome of laparoscopy

Outcome	Frequency
Diagnostic accuracy	44
Orchiopexy	19
Decision for planned inguinal exploration	22
Decision for stages procedure	2
Decision for Laparoscopic orchiectomy	1

DISCUSSION

Testicular descend, although not yet fully understood, take place two different gestational stages, occurring during intrauterine weeks 8 to 15 and 25 to 35. Failure of the first phase of descend is rarer than that of the second phase and result in intraabdominal testes.⁵

However cryptorchidism is one of the most common genitourinary disorder in young boy. The treatment of undescended testicles is mandatory due to the increased risk of infertility, present in up to 40% of the patients, as compared to 6% of control groups malignancy, which reaches 20 times that of normal adults.⁶

The mean age at laparoscopy was 3.6 years in our series. Thirty seven percent of the patients of our study were between 2-5 years. Despite the recommendations for the treatment of the cryptorchid testis before 2 years of age, many of our patients were older, due to the low socio-economic characteristics of the public health system in our country, the lack of parental information and difficult access to tertiary health care. According to one study, the incidence of cryptorchidism can rise up to 30% in pre-mature boys. The prevalence of bilateral cryptorchidism was also found high in pre-mature boys. Descent of the testes may continue till the three month of life. The rate of undescended testis in one year-old babies is about 1% and the rate remains unchanged until puberty.⁶ The right side is more frequently in UDT(45%) in comparison to left (35%), we found in our study that 36% of patient with unilateral nonpalpable testes were in left side while 17% in the right side and 47% bi-lateral, which is similar in one study where left side in 57% and right in 43%.⁷

One study reported that a sensitivity of 88%, specificity of 100%, accuracy 91% in the sonographic localization of UDT.⁸

Another study showed that, the sensitivity of sonography in localizing the inguinal undescended testis 97% and abdominal testes 48%.⁹ Another study showed scrotal-inguinal ultrasound had a sensitivity 95%, specificity 90% in localizing the undescended testis.¹⁰ In one report showed that, only one (13%) of the eight non-palpable testes was demonstrated sonographically.¹¹ Another study showed Ultrasonography had a sensitivity of 76%, a specificity of 100%, and an accuracy of 84% in the diagnosis of non-palpable testis.¹¹

CONCLUSION

From our study we can conclude that, Laparoscopic orchiopexy were done by either single stage or two staged Fowler-Stephens method, needs to be evaluated on large group of patients with longer follow-up.

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Source of Support: Nil.

Conflict of Interest: None Declared.

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Cite this article as: Md. Mahabur Rahman Sarker, Md. Abdul Aziz, A. R. Khan, Mohammad Golam Mostafa. The Sociodemographic Characteristics of Nonpalpable Testes in Children Undergo Laparoscopy Surgery in Bangladesh. *Int J Med Res Prof.* 2020 Jan; 6(1): 87-89. DOI:10.21276/ijmrp.2020.6.1.023