WHY PATIENTS OF UNDESCENDED TESTIS PRESENT BEYOND THE OPTIMAL AGE FOR TREATMENT? A COMMON PROBLEM OF DEVELOPING COUNTRIES

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ABSTRACT

Background/purpose: Orchidopexy for undescended testis (UDT) is recommended between 8 months and 2 years. UDT usually presents late in this part of the world. The purpose of this study is to know the factor responsible for delayed presentation of UDT.

Method: This prospective observational study was conducted at Pediatric Surgery unit of the Khyber teaching hospital from August 2016 to Feburary 2018. This study includes 37 patients who presented for undescended testis management. Patient age ranges from 2.1 years to 16 years. Data was collected regarding demographic, age at time of 1st diagnosis, latrality, palpability, socioeconomic status and parents' literacy. On the basis of history patients were classified into three groups, delay in early diagnosis, delayed referral and delay in treatment due to parents. We reviewed the collected data and analysis performed using SPSS version 20. The P value of <0.05 was considered statistically significant.

Results: The mean age at which diagnosis was 1.82 years (range 0.01 to 10 years) and mean age at time of presentation to the hospital was 4.79 years (range from 2.50 to 12 years). 27.3% patients were diagnosed late, 32.7% were referred delayed for treatment and 40% presented late due to parents factor. Socioeconomic status, parents literacy and palpability of the testis has a significant role in late presentation of UDT. Area of living and laterality has no significance for late presentation of UDT.

Conclusion: Delay on behalf of parents and delayed referral were the main reasons for late presentation of UDT for treatment. Low socioeconomic status, palpability and low level of parents' literacy has a significant role in late presentation of UDT.

Key Words: Undescended testis, Orchidopexy, late presentation, delayed referral, parents delay.

INTRODUCTION

Undescended testis(UDT) is a common congenital condition of male which can be unilateral or bilateral[1]. Its reported incidence is from 0.1 to 4.3% in term babies which is high for premature. There is spontaneous descent of testis up to 3 month of age and this is the reason for decrease in incidence to 1-2%[2]. Routine Physical examination of boys is required after birth for early diagnosing the UDT and this should continue after 3 months. Orchidopexy is recommended after six months of age and before the 2nd birthday of child[1,3,4]. Recently some studies have reported the decrease in orchidopexy age from 6 months to 12 months. Success rate of surgery is high in early diagnosis and treatment for UDT. Delayed diagnosis and treatment can cause testicular atrophy, malignant changes, torsion, subfertility and psychological effects[4,5]. Late presentation has been reported as indicator of poor health system and lack of awareness[6]. Being a part of developing world with limited resources such patient present very late for treatment. To know more about why these patients present beyond the optimal age for treatment, we collected and analyse data of our patients who presented late for UDT treatment.

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METHADOLOGY

This prospective observational study was carried out from August 2016 to February 2018 at Pediatric Surgery unit of the Khyber teaching hospital. It includes all diagnosed cases of UDT having age above 2 years and presented to the Pediatric surgery unit for management. A proforma was designed to collect data regarding the late presentation of UDT. Data was collected regarding demographic, age at 1st diagnosis, cause of delay in treatment, socioeconomic status, parent's literacy, laterality and palpability. Patients were grouped into three categories of delay in early diagnosis, delayed referral for treatment and delay due to parents. Diagnosis of UDT was done through physical examination. Socioeconomic status was classified as low with income below 15 thousand, average with income between 15 to 25 thousand and high with income above 25 thousand. Parent's literacy was recorded as illiterate, matric level

and high.

Statistical Analysis

The collected data were revised, tabulated, coded and fed in PC having statistical analysis program SPSS-20. Data was presented and suitable analysis was carried out according to the type of data. Statistical significance was accepted at a value $p<0.05$. *Descriptive statistics*: 1) Mean and rang for numerical data like age. 2) Frequency and percentage for categorical data like socioeconomic status, parent's literacy, area of living. *Analytical statistics*: Chi-square test (x2) performed for categorical data

RESULTS

Our result discovered, mean age at time of diagnosis was 1.82 years (range from 0.01 to 10) and mean age at time presentation for treatment 4.79 years (range from 2.50 to 12 years). Age distribution at time of presentation and at time of diagnosis is shown in fig 1 and 2. Delay in early diagnosis was at 27.3% (15 out of 55). 32.7% (18 out of 55) patients' diagnosis done early and then referred delayed for treatment. 40% (22 out of 55) patients were early diagnosed and referred for treatment, but presented late due to the parents' factor. Further analysis showed socioeconomic status, palpability of the testis, parents literacy has a significant relation to late presentation of patients with UDT ($<p=0.05$). Area of living and laterality has got no significance to late presentation of UDT ($>p=0.05$). Table 1

DISCUSSION

Undescended testis treatment should be done after 6 months and before 2 years. Late presentation recorded in our study is appalling. Timely treatment

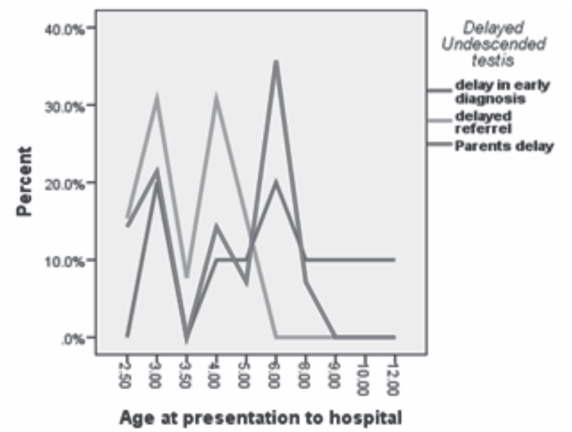

Fig1: Age of patient at time of presentation

Fig 2: Age of 1st diagnosis of UDT

Table 1: Factors for late presentation of UDT for treatment.

	Delay in early diagnosis	Delayed referral	Parents delay	P value
Area				
Rural	10 (27.8%)	10 (27.8%)	16 (44.4%)	P=0.092
Urban	05 (26.3%)	08 (42.1%)	06 (31.6%)	X2=4.76
Socioecnomic status				
Low	06 (25%)	09 (37.5%)	09 (37.5%)	
Average	09 (34.6%)	07 (27%)	10 (38.4%)	P=0.001
High	00 (0%)	02 (40%)	03 (60%)	X2=42.52
Mother Education				
Illiterate	10 (30.3%)	08 (24.3%)	15 (45.4%)	
Matric level	04 (25%)	08 (50%)	04 (25%)	P=0.001
Higher	01 (14.3%)	02 (28.6%)	04 (57.1%)	X2=29.2
Father Education				
Illiterate	06 (26.1%)	07 (30.4%)	10 (43.5%)	

Matric level	03 (20%)	04 (26.7%)	08 (53.3%)	P=0.01
Higher	06 (35.3%)	07 (41.2%)	04 (23.5%)	X2=18.4
Latrality				
Unilateral	07 (30.4%)	08 (34.8%)	08 (34.8%)	P=0.423
Bilateral	08 (25%)	10 (31.3%)	14 (43.7%)	X2=1.72
Palpability of testis				
Palpable Testis	05 (15.6%)	12 (37.5%)	15 (46.9%)	P=0.001
Non palpable	10 (43.5%)	06 (26.1%)	07 (30.4%)	X2=19.05

of undescended is crucial to prevent complications of histological changes, infertility and malignancy[1,7]. Late presentation of these patient is common in developing countries due to poor health system and lower socio-economic status[8]. Literature review of developing countries have reported late presentation of these patients with undescended testis in 33% to 56.3%[1]. Our result showed gross difference in age at time of diagnosis and age at time of presentation for treatment to hospital. Reasons for this late presentation can be categorised into delay in early diagnosis, delayed referral and delay due to parents. Age of referral is decreasing and currently orchidopexy has been reported befor the age of 12 month[9]. Delayed referral of these patient has been reported and all health care provider need to be updated regarding the recent guideline for treatment of UDT[10]. Referring provider need to be educated regarding prompt referral of these patients to alleviate the impact of delayed treatment[11]. In the current study, 32.7% diagnosed cases presented late for treatment due to delayed referral by a health care provider. Delay in diagnosis is reported because the health care staff is not that much trained in examining the newborn and lack of insight of parents regarding UDT[8]. Some studies have reported delay in diagnosis of UDT as failure of health screening[12]. A study in Sudan reported late presentation of UDT in 44% cases and recommended that health care provider should examine the neonate carefully and counsel the parents regarding delay in treatment[13]. In current study the delay in early diagnosis was in 27.3% cases. The diagnosis in these patients is missed by health care provider and even parents have not noticed it due to low level of literacy. Another study conducted in India has reported that physician are mainly responsible for late presentation UDT patients[14]. Parents have the main role seeking timely treatment of their child. In our study, 40% patients presented late for treatment just because of factor related to parents. Socioeconomic status and parents literacy has been reported as a risk factor for late diagnosis and treatment of UDT patients[2,9]. In our study low socioeconomic status, low level parents literacy and non palpable testis were regarded as statistically significant risk factor for late diagnosis and treatment of these patients.

CONCLUSION

On the basis of our study, we concluded that delayed referral and delay on behalf of parents were the main reason responsible for late presentation of patients with UDT. This problem can be overcome by increasing parents' literacy rate, socioeconomic status and by updating the knowledge of health care provider regarding UDT management.

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