

Prevalence and patterns of undescended testis among primary school pupils in Kampala, Uganda.

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A cross sectional study was undertaken with the main objective of determining the prevalence and patterns of undescended testis (UDT) among 437 primary school pupils from randomly selected primary schools in one Division of Kampala in Uganda. The study variables included age, tribe, scrotal findings, side and location of the undescended testis plus associated groin and external genitalia abnormalities. UDT was found in 27 of the 437 children. The right side alone was involved in 17 (63%), the left alone in 5 (18.5%) and was bilateral in five cases (18.5%). Sixteen (59%) of UDT were palpable in the inguinal region while in 11 (41%) could not be palpated. Ultrasonography of the groin area located five of the 11 impalpable testes. This study showed that the prevalence of UDT in the study population was 5.5% and occurred more commonly on the right side and the superficial inguinal pouch was the commonest site.

Introduction

UDT is a congenital abnormality of the testis whereby its descent into the scrotum is arrested along its normal path. It is a common abnormality worldwide and its incidence varies from place to place. It is an abnormality that can be easily detected by simple clinical examination.

In most developed countries the genitals of all male neonates are examined at birth but still UDT may be missed until the boy is examined by a school medical officer¹. In Uganda a school pre-entry medical examination is not routinely done hence missing a chance to detect this abnormality early.

The aim of our study was to determine the prevalence of undescended testis among primary school going children of Kawempe division in Kampala, Uganda.

Patients and Methods

This was a cross-sectional study of male pupils in six of the primary schools of Kawempe Division; one of the six divisions of Kampala city. An introductory letter from the head of Department of Surgery was presented to the Headmasters of the six schools from which children were randomly selected for the study. Consent was sought from the parents or guardians of the children. The minimum required sample size (n) of 418 was calculated using the formula developed by Kish and Leislie (1965).

For each child, the principal author systematically examined the inguinal scrotal region and external genitalia when the pupils were lying supine, squatting or recumbent who recorded any abnormalities discovered. The inguinal region was inspected for any obvious swellings and for any abnormal swellings

such as hydrocoele.

Each study subject was also requested to cough while the examiner obliterated the external inguinal orifice to check for presence of an occult inguinal hernia. Presence or absence of the testes was recorded. For those testicles that were palpable outside the scrotum, the exact location was recorded. In cases where the testicles were not palpable, an abdominal ultrasound scan, using a high frequency linear probe was carried out to ascertain their presence. Any abnormality detected was communicated to the concerned parents or guardians.

Results

Four hundred and eighty seven pupils aged between 5 and 13 years were included in this study. Of these, 27 (5.5%) were found to have UDT. The peak incidence was in the 9-11 years age group (Figure 1). The majority (59.6%) belonged to the Ganda tribe. There were 9 non-Ugandans in the study populations. In 17 cases (63%), UDT was found on the right side. Five of the impalpable UDT were located by ultrasonography. Four pupils had hydrocoeles and two had groin hernias associated with undescended testis. Tables 1 and 2 show the location of the UDT.

Figure I. Age distribution in years of children with undescended testes.

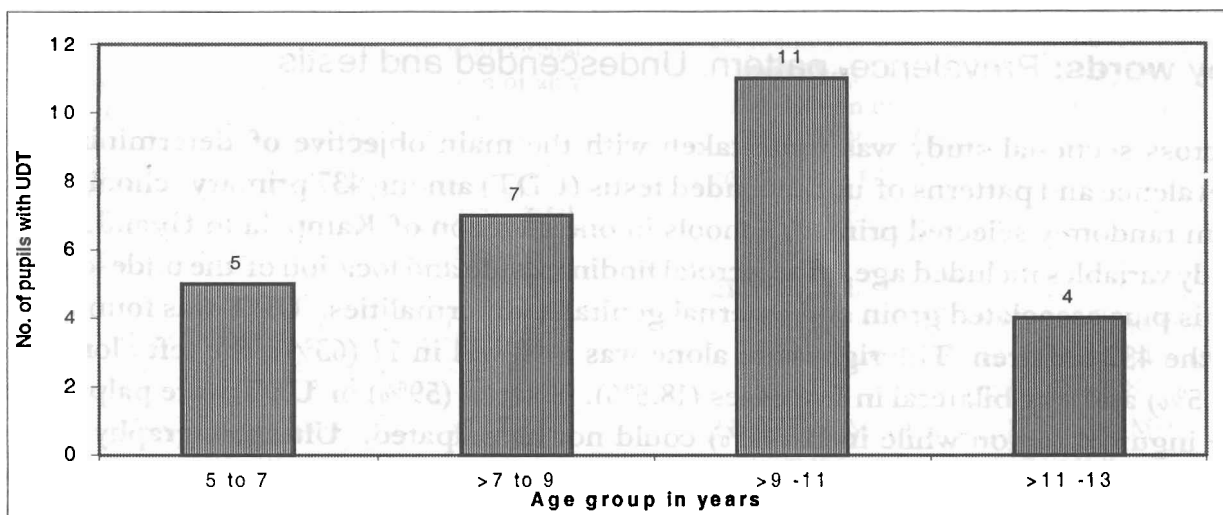


Table 1: Side of the undescended testis

Side	Frequency	Percentage
Right	17	63%
Left	5	18.5%
Bilateral	5	18.5%
Total	27	100%

The commonest site for UDT was the superficial inguinal pouch n = 16 59% (Table)

Table 2 Location of undescended testis

Location	Frequency	Percentage
Superficial Inguinal pouch	16	59%
Inguinal canal	3	11.1%
Not palpable	8	29.6%

Discussion

The prevalence of UDT in this study was 5.5%. In a similar study by Roy Brown² on Primary school children in Uganda, a UDT prevalence of 3.8% was obtained. In a retrospective hospital based study, Mlay and Sayi³ at Muhimbiri Medical Centre in Dar-es-salaam reported 40 cases of UDT in 3 years.

A study in babies by Scorer⁴ found a UDT prevalence of 4% and 35% among full term and premature babies respectively. In the present study, the majority of pupils with UDT were in the 9-11 years age group. This was probably a reflection of the predominant age group in the study population. The right side had a higher incidence of UDT in our study. Mlay and Sayi³ and Scorer⁴ reported similar observations in their studies. The higher incidence of right-sided UDT is probably explained by later descent of right testis as opposed to the left, which is therefore more likely to result in its arrest due to mechanical factors.

The superficial inguinal pouch was the commonest location of the undescended testis. This finding is in agreement with observation by Mlay and Sayi³. It is worthwhile noting that with ultrasonography, it was possible to locate 5 of the 8 impalpable testicles. This was in contrast with findings by

Devenport⁵ that ultrasound scanning is a poor technique in localizing undescended testes. Davenport⁵ reported a prevalence of inguinal hernias in 1-5% of UDT in his series.

Only two inguinal hernias and four hydrocoeles were associated with UDT in study. Davenport⁵ reported that UDT usually co-exists with hernia or hydrocoeles because of the similar anatomy.

Conclusion.

Our study revealed a 5.5% prevalence of undescended testis among primary school pupils in one of the divisions of Kampala with the right side being involved than the left one. The superficial inguinal pouch was the commonest site at which the testis was arrested. Ultrasound was found to be useful in localizing impalpable testes. It is recommended midwives, doctors and other health workers should routinely look for undescended testes when examining babies and children.

References

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