

Cryptorchidism in a local population in Nigeria

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Summary

Objective: To screen for undescended testis, retractile testis and other anomaly of the external genitalia in randomly selected Nursery/Primary schools in Osogbo, Nigeria.

Design: A prospective study involving seven different Nursery/Primary schools with 1615 male pupils ages 2- 10 years were screened.

Setting: Five private Nursery/Primary schools and two government owned primary school in Osogbo.

Methodology: Permission was sought from the schools' Headmasters through the proprietors of the private schools, Local inspector of Education of government primary schools, and the ethical committees of the University and the Teaching Hospital. Male pupils were examined by three groups made up of a consultant and a resident in each group.

Results: A total of 1615 male pupils were examined out of which 40 pupils (2.5%) were found to have undescended testis, five of these (12.5%) had bilateral cryptorchidism. Eighteen had right undescended testis (45.0%) while seventeen (42.5%) presented with left undescended testis. Four pupils had retractile testis two on each side and another four had a co-existing hydrocoele with their undescended testis.

Conclusion: Prevalence of Cryptorchidism in the age group in this study is significant. There is need to screen male children so that early detection and correction may be effected.

Keywords: Cryptorchidism, Local population, Nigeria

Résumé

Objectif: Faire passer un test de dépistage afin de noter un testicule qui ne descende pas, testicule rentré et d'autres anomalies propre aux organes génitaux externes dans des écoles maternelles/primaires sélectionnées au hasard à Osogbo au Nigeria.

Plan: Une étude en perspective impliquant sept écoles maternelles/primaires différentes avec 1615 garçons âgés 2 - 10 ans ont été sélectionnés au hasard.

Cadre: Cinq écoles maternelles/primaires privées et écoles primaires publiques à Osogbo.

Méthodes: On a demandé l'autorisation au directeur d'école à travers les propriétaires des écoles privées, inspecteurs local d'éducation des écoles publique, le comité d'éthique de l'université et du centre hospitalier universitaire. Les élèves garçons ont été examinés par trois groupes composés d'un médecin spécialiste et un interne dans chaque groupe.

Résultats: Un total de 1615 élèves garçons ont été examinés parmi lesquels 40 élèves soit 2,5% ont été remarqués d'avoir testicule qui ne descende pas, cinq parmi ceux ci soit 12,5% avaient la cryptorchidie bilatérale. Dix huit avaient testicules qui ne descendent pas à gauche, quatre élèves avaient testicule rentré, deux dans chaque côté et un autre quatre

avaient un hydrocoele en co-existence avec leurs testicules qui ne descendent pas.

Conclusion: La fréquence des cas de la cryptorchidie dans le groupe d'âge de cet étude est importante. C'est nécessaire de sélectionner les enfants garçons afin de pouvoir effectuer une correction et détection immédiate.

Introduction

The testes develop from the genital ridge in the posterior abdominal wall, medial to the developing kidneys.^{1,2} As the caudal end grows, the cranial end undergoes atrophy hence the testis descends downwards, guided by gubernaculum testis, until it finally enters into the scrotum. The testis could get arrested in its path of descent anywhere from the abdomen to the scrotum. Prematurity, hormonal derangement, gubernaculum anomaly and primary testicular anomalies have been implicated as possible causes of cryptorchidism, though rarely there could be testicular agenesis.^{2,3}

Hydrocoeles and hernias are commonly associated anomalies.⁴ Infertility, testicular trauma, torsion, malignant and degenerative changes are possible complications.^{5,6} Most of the previous studies are hospital based.^{7,10} The need to do a community survey was prompted by the case of a 17-year-old boy who had left cryptorchidism and torsion of the right testis. Because he presented very late, a right orchidectomy had to be done. The atrophic left testicle, located at the deep inguinal ring was brought down for close monitoring and follow up.

Patients and method

Prospective study was carried out involving male pupils of five private nursery and primary schools and two government owned primary schools in Osogbo, Osun State capital, Nigeria.

Permission was sought from school Headmasters through the proprietors of Private Schools Local Inspector of Education of government primary schools and the ethnical committee of the University and the Teaching Hospital.

Male pupils with age ranged between 2 - 10 years were physically examined by three groups of examiners, each group made up of a consultant surgeon and a resident doctor. The proforma used included name, age, side and location of the undescended testis plus other associated anomalies of external genital with a brief family history.

Result

One thousand six hundred and fifteen (1,615) male pupils were examined. Age ranged between 2 years and 10 years. A total of forty pupils (2.5%) presented with undescended testis, either unilateral or bilateral. Five of these (12.5%) presented with bilateral undescended testis, and eighteen had right undescended testis (45.5%). Seventeen had left undescended testis (42.5%). Only four pupils had retractile testis two on

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each side. Four pupils had congenital hydrocoele in association with the undescended testis out of which three of them were on the right side, and

Table 1 Pattern of cryptorchidism and associated anomalies

Age Years	Number Examined	Right Crypto	Left Crypto	Bilateral Crypto	Total Crypto	Right Hydrocoele	Left Hydrocoele	Right Retractable Testis	Left Retractable Testis
2 - 3	255	3	1	1	4	1	-	1	
3 - 4	240	5	2		7	-	-		2
4 - 5	222	3	1	2	6	-	1	1	
5 - 6	320	3	2	1	7	-	-		-
6 - 7	161	2	5	-	7	1	-		-
7 - 8	153	1	2	1	3	-	-		-
8 - 9	122	1	2	-	3	1	-		-
9 - 10	39	1	2	-	3	-	-		-
Total	1615	18	17	5	40	3	1	2	2

one on the left side, (see table 1). The four patients with retractile testis were reassured, while the patients with hydrocoele had hydrocoelelectomy via the inguinal canal. All were operated upon under general anesthesia without any problem. No associated post operative complications were encountered. Out of the forty patients with cryptorchidism, thirty seven of them had their testicles located in the inguinal region while the remaining three pupils' testicles were found in the abdomen.

The patient with the testis at the superficial ring of the inguinal canal had orchidopexy without complication. The three patients with the testis in the abdomen had unilateral orchidectomy because the testes were atrophied, the testicular arteries were very short and the age at presentation was above 7 years. The post-operative recovery was uneventful.

Discussion

Most reported literatures are hospital based and involved neonates⁷⁻¹⁰ in which incidence of 4.4% was reported in the new born of gestational age 38 - 42 weeks while in ages less than 28 weeks of gestation, the incidence as high as 25.4% was reported. This shows that testis still continues to descend into the scrotum even after birth hence the frequency of undescend decreases with gestational maturity.^{7,8} In our series, thirty five pupils had unilateral undescended testis, accounting for the majority of the cases. This is in agreement with other studies.^{10,12}

Though both testes are exposed to the same internal milieu, local anatomical factors such as narrow inguinal canal, short spermatic cord, membranous diaphragm at the external inguinal ring may also be more operative on one side than the other.¹³

The right testis normally descends later than the left.^{4,5} The reason may be due to any of the local factors as already observed by some other authors.^{7,8} Our findings in this study are in agreement as far as the right testis was involved in eighteen pupils (52.94%) of the cases of unilateral undescend. Our observation is that only three of the pupils had the testis in the abdomen (7.5%); while the remaining thirty seven pupils had the testicles in the inguinal canal or the neck of the scrotum.

Conclusion

The prevalence of Cryptorchidism in this study is significant in this local area. In advanced countries the fact that there is no data for this age group suggests that the problem is properly corrected at an earlier age.

Doctors who are working in local population and even in cities of most third world countries have to screen male children earlier so that early detection and correction could be carried out.

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