Brief Communication

Free full text available from
www.cancerjournal.net

Clinico-pathological patterns of testicular malignancies in Ilorin, Nigeria—a report of 8 cases

ABSTRACT

Background: The incidence of testicular cancers has been increasing in many populations over the past decades and concerns have been expressed about the possible decrease in semen quality in the period. It may account for one of the factors responsible for increasing male infertility in Ilorin, Nigeria.

Objective: To find out the incidence, age distribution clinical presentation, duration before presentation and the occurrence of various Histopathological subtypes of testicular tumours in Ilorin.

Design: A retrospective study.

Setting: A teaching hospital (University of Ilorin)

Patients: Testicular biopsies were done on patients presenting at the hospital with suspected cases of malignancies.

Materials and Mehtods: All consecutives cases of testicular malignancies diagnosed in the department of pathology, university of Ilorin Teaching Hospital, during the period of thirteen years (1990-2003) were included in this study. Relevant clinical details such as age, clinical presentation and side of involvement of the testis were also recorded. The slide preparations of this sample were retrieved and reviewed.

Result: During the span of thirteen years (1990-2003), testicular cancers accounted for 0.05% of all sample received and 0.14% of the male biopsies. Most of the diagnosed cases were in the first decades of life and are mainly germ cells tumours of which yolk sac tumours are commonest subtypes.

Conclusion: Incidence of testicular cancers is still low in this environment and may not account for major contributory factors in male infertility in Ilorin.

Key words: Testicular cancers, Incidence, Infertility, Ilorin

Izegbu MC, Ojo MO+, Shittu LAJ*
Department of Morbid Anatomy, Lagos State, University, College of Medicine, (Lasucom), Ikeja Lagos, Nigeria.
Consultant Pathologist, +Department of Pathology, College of Medicine, University of Ilorin, Ilorin Kwara State, Nigeria.
*Department of Anatomy, Lasucom, Ikeja, Lagos, Nigeeria

For correspondence:
Dr. Izegbu MC, Department of Morbid Anatomy, Lasucom, Pmb 21266, Ikeja Lagos, Nigeria.
E-mail: mathewizegbu@yahoo.com

INTRODUCTION

The incidence of testicular cancer has been increasing in many populations over the past decades.[1-3] Concerns have also been expressed about the possible decrease in semen quality in the same periods.[4-9]

The great majority of testicular cancers, particularly before the age of 60 years are germ cells tumours. During the past 20 years research into the causes of testicular cancer has pursued the hypothesis of prenatal aetiology.[10-11] More recently it has been hypothesized that both testicular cancers and subfertility may be caused by the exposure of the developing male embryo to agents that disrupt normal hormonal balance.[12]

The origin of this cancer is likely to be the population of primordial germ cells and testicular cancers express markers which are similar to foetal germ cells.

The following histological classification of malignant testicular germ cell tumours (testicular cancer) reflects the classification used by World Health Organization (WHO).[3]

1 Intratubular germ cell neoplasia unclassified (IGCNU)
2 Malignant pure germ cell tumour (showing a single cell type)
   i Seminoma
   ii Embryoma carccinoma
   iii Teratoma
   iv Choriocarcinoma
   v Yolk sac tumours
3 Malignant mixed germ cells tumours (showing more than one histologic pattern)
   i Embryomal carcinoma and teratoma with

or without seminioma.
- ii Embryomal carcinoma and yolk sac tumours with or without seminoma.
- iii Embryomal carcinoma and seminoma
- iv Yolk sac tumours and teratoma with or without seminoma
- v Choriocarcinoma and any other element.

4 Polyembryoma
Less than half of germ cell tumours have a single cell type in which approximately half of them are seminomas. The rest have more than a single cell type and the relative position of each cell type should be specified. The cell types of these tumours are important for estimating the risk of metastasis and response to chemotherapy. Polyembryoma present an unusual growth pattern and is sometimes listed as a single histologic type, although it might better regard as mixed tumours.[13-15]

This retrospective study is designed to appraise the incidence, age, distribution clinical presentation, duration before presentation and the prevalent histopathologic subtypes in Ilorin.

PATIENTS AND METHODS

All cases of testicular malignancies diagnosed in the department of pathology, University of Ilorin Teaching Hospital. During the period of thirteen years (1990-2003) were included in this study. Relevance clinical details such as age, clinical presentation and side of involvement of the testis were also recorded. The slides the preparations of the slides specimens were retrieved and reviewed.

Computerized analyses of the study data were expressed as the Mean $\pm$ S.D; and percentage calculations were carried out using SPSS package.

RESULTS

Most of the patients (62.5%) presented in the first decade of life (0-9 years). The lesions presented more on the Right (R) side (56.25%) than on the left side (43.75%).

Most of the testicular tumours presented with swelling is about 61.5% of cases while other region presented with equal percentage of about 7.7% respectively.

75% of patient presented in the clinic within 0-2 years while 12/5% of them presented within 3-5 years. Another 12.5% presented in 12-14 years.

Germ cell tumours constituted 50% of all malignant testicular neoplasms and amongst this, yolk sac tumours was the commonest histological sub type (37.5%). This is closely followed by sex-cord stroma tumours (androblastoma) of 25%.

DISCUSSION

During the span of thirteen years (1990-2003), a total of 16,723 specimens received in the department of pathology, University of Ilorin Teaching Hospital, Ilorin and out of this 5,870 were for male. 8 cases of testicular malignancies were seen within this period, thereby accounting for 0.05% of all sample received and 0.14% of the male biopsies.

Testicular tumours are rare and perhaps not unexpectedly, the quoted rates of incidences and relative frequency vary from country to country. In general, testicular tumours are uncommon in the tropics especially in Africans (10). For example, the incidence rates are as follows; Ibadan-(0.1) South Africa- (0.9), France-(4.0); Denmark-(4.5). [6]

The mean ages of presentation is 18.25 + 6.45, with about 62.5% of the malignancies occurring before the age of 5 years and about 50% were germ cells tumours. This is slightly at variance with the report that cancers of the testis affect young men in the 3rd and 4th decades of life and in agreement with the result that majority of the tumours are derived from germ cells.[1,10]

The result showed that there was a slight predominance of right-sided testicular neoplasm. This is in consonant with the report of other workers Considering the mode of presentations of the cancer, scrotal swelling is the commonest (58.8%) and this in agreement with the report that it is the commonest presenting symptom irrespective of the histological types.[16,17] Patients presented with pain, lymph node enlargement; paraplegia; jaundice and bilateral edema in 7.1% respectively.

It is very interesting to note that on the average the time of presentation of the patients to seek medical attention at the hospital is 2.8 years with the earliest being 3 months and latest at 14 years. It appears as patients with scrotal swellings associated with pain are likely to present early than those without pain.

Histologically, Germ cell tumours constituted 50.0% of all the malignant testicular neoplasms and amongst this, Yolk sac tumour was the most common (37.5%) followed by androblastoma (sertoli cell tumour) of 25%. Which is a sex-cord stroma tumour were found commonly in children (0-9 years). Metastatic carcinomas and lymphomas were found in the young adult and the aged.

The risk of testicular cancers is associated with constitutional characteristic of being infertile or subfertile. This interpretation is further supported by the insensitivity of the estimated parameters to statistical adjustment for potentially confounding factors and by the similar distributions in

cases and controls of characteristics potentially associated with low fertility for example, mumps orchitis, long duration of education, homosexuality) and other relevant sexual characteristics for example, cohabitation with a woman, sex with female prostitutes, sexually transmitted diseases.[19,20] In our study, there was no follow-up of these patients as such; it is difficult to dwell into the issues of testicular cancers and infertility.

CONCLUSIONS

The incidence of testicular cancer is still low in Nigeria and has not changed as our over years as our result compares favourably well with the result quoted for Ibadan in the 1976.[9, 10] It is not a major contribution factor to the increasing male fertility in our environment. The commonest Histopathological pattern is germ cell tumours with a sub-type of yolk sac being the most predominant. Testicular swelling is the commonest mode of presentation.

ACKNOELDGEMENTS

The authors wish to thank the entire staff of the department of pathology, University of Ilorin Teaching Hospital for their contribution. The authors contributed materially and financially for this project.

REFERENCES

1. Coleman MP, Esteve J, Damiecki P, Arslan A, Renard H. Trends in cancer incidence and mortality. IARC Sci Publ 1993;121:521-42. 1993.
2. Forman D, Moller H. Trends in incidence and mortality of testicular cancer. Cancer Surveys 1994;19/20: 323-41.
3. Adami HO, Bergstrom R, Mohner M, Zatonsky W, Storm H, Ekbom A, *et al*. Testicular cancer in nine northern European countries. Int J Cancer 1994;59: 33-8.
4. Bostofte E, Serup J, Rebbe H. Has the fertility of Danish men declined through the years in terms of semen quality? A comparison of semen qualities between 1952 and 1972. Int J Fertil 1983;28:91-5.
5. Bendvold E. Semen quality in Norwegian men over a 20-year period. Int J Fertil 1989;34:401-4.
6. Carsen E, Giwercman A, Keiding N, Shakkebaek NE. Evidence for decreasing quality of semen during past 50 years. BMJ 1992;305:609-13.
7. Auger J, Kunstmann JM, Czyglik F, Journnet P. Decline in semen quality among fertile men in Paris during the past 20 years. N Engl J Med 1995;332:281-5.
8. Irvine S, Cawood E, Richason D, MacDonald E, Aitken J. Evidence of deteriorating semen quality in the United Kingdom: birth cohort study in 577 men in Scotland over 11 years. BMJ 1996;312:467-71.
9. Pajarien J, LAippala P, Penttila A, Karhunen PJ. Incedence of disorders of spermatogenesis in middle aged Ginnish men, 1981-91: two necropsy series. BMJ 1997;314;13-8.
10. Henderson BE. Benton B, Jing J, Yu MC, Pike MO. Risk factors for cancer of the Spermatogenesis in middle aged Finnish men, 1981-91: two necropsy series. BMJ 1997;314:13-8.
11. Shakkebaek NE, Berthelsen JG, Giwercman A, Muller J. Carcinoma-insitu of the testis: possible origin from gonocytes and precursor of all types of germ cell tumours expert spermatocytoma. Int J Androl 1987;10:19-28.
12. Sharpe RM, Shakkebeak NE. Are oestrogens involved in falling sperm counts and disorders of the male reproductive tract? Lancet 1993, 1392-1395, 1993.
13. Woodward PJ, Heidenriech A, Looijenga LHJ. Germ cell tumours. *In*: Eble JN, Sauter G, and Epstein JI, editors. Pathology and Genetics of Tumours of the Urinary System and Male Genital Organs. Lyon, France: IARC Press; 2004. p. 221-49.
14. Ulbright TM. Testicular and paratesticular tumours. *In*: Mills SE, editor. Stenberg's Diagnostic Surgical Pathology. 4th edn. Philadelphia, Pa: Lippincott Williams & Wilkins; 2004. p. 1269-79.
15. Bosl GJ, Bajorin DF, Sheinfled J. Cancer of the testis. *In*: DeVita VT Jr. Hellman S, Rosenberg SA, editors. Cancer: Principle and Practice of Oncology. 6th edn. Philadephia, Pa: Lippincott Williams & Wilkins; 2001. p. 1491-518.
16. RCB. Pughi Pathology of the testis; 1976. p. 142-55.
17. Gill MS, Shah SH, Soomro IN, Kayani N, Hassan SH. Morphological pattern of testicular tumour. J PAK Med Assoc 2000;50.
18. Laguna MP, Pizzocaro G, Klepp O, Algaba F, Kisbenedek L, Lerva O. Eur Urol 2001;40:102-10.
19. Henrik Moller, Niels E. Skakkebaek; Risk of testicular cancer in subfertile men, case-control study. BMJ 1999;318:559-62.
20. Moller H, Shakkebaek NE. Risks of testicular cancer cryptorchidism in relation to socio-economic status and related factors: case-control studies in Denmark. Int J Cancer 1996;66:287-93.