Histopathological Study of Testicular and Paratesticular Lesions in a Tertiary Care Hospital

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Abstract

Aim: To evaluate the histopathology of testicular and para-testicular lesions presenting in a tertiary care centre.

Material & Method: This is a retrospective study of tissues obtained from lesions involving testicular and para-testicular region, conducted at B.J. Medical College and Civil Hospital , Ahmedabad, Gujarat from period of May 2016 to May 2019. The tissue samples obtained were grossed , processed and reported. Patients case sheets were studied and analyzed for data.

Result: The present study was done from May 2016 to May 2019 . Total 167 cases were studied at Pathology Department , B.J.Medical College & Civil Hospital , Ahmedabad , Gujarat which is a Premier Tertiary Care Hospital. Neoplastic lesions were found in 19 cases whereas Non-neoplastic lesions were seen in 148 cases. Among 148 Non-neoplastic lesions 109 cases are testicular and 39 cases were Para-testicular lesions. Among 19 Neoplastic lesions , 4 were benignand 14 were malignant.

Conclusion : In conclusion we would like to emphasize the need for early detection and diagnosis. Despite new techniques in imaging and tumor marker assay , the diagnosis of testicular lesions is primarily dependent upon histopathological examination.

Key words: *Histopathology , Testicular and Paratesticular lesions , Non specific Epididymoorchitis , Seminoma*

Introduction

Testicular lesions range from pediatric to adult age group.They are categorized under Non-neoplastic and neoplastic lesions[1]. Non-neoplastic lesions include cryptorchidism (undescended testis), epididymo-orchitis ,torsion of testis , testicular atrophy , epidermoid cysts , infections like tuberculosis, mumps and syphilitic orchitis. Undescended testis is the commonest genital malformation of the male child [3] and is found in 1% of all one year old infants.[4] Torsion of testis is a surgical emergency , seen in 10-25 years of age.[5] Testicular tumors are rare and account for <1% of all malignancies ,found in 15-35 years[6] .Testicular carcinoma follows a reverse pattern to most cancers with decreasing incidence rate with increasing age.[5] Radical orchidectomy is the first treatment for any testicular mass suspected to be a tumor.

Paratesticular region is a complex anatomical area which includes the contents of spermatic cord , epididymis and vestigial remnants.[7]

The present study is undertaken to study the diverse histomorphological patterns of testicular lesions and thus offering a specific diagnosis which is of paramount clinical significance.

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Materials and Method

The present study on “Histopathological Study Of Testicular and Paratesticular lesions” was carried

out at Civil Hospital , Ahmedabad, Gujarat. All radical orchidectomy specimens were received from Department of Surgery of our hospital. In my study i excluded the orchidectomy specimens which had been sent for infertility. I also excluded the specimen with prostatic carcinoma with prophylactic orchidectomy having normal testis histopathologically. Duration of my study is from May 2016 to May 2019. Total duration of the present study was 36 months and total 167 cases were carried. Due importance was paid to record a brief clinical history with age, registration no. , biopsy no., presenting signs and symptoms. All patients were investigated with routine hemogram , X-ray chest , ultrasound of abdomen , when required serum marker assay for Alpha-fetoprotein , B-human chorionic gonadotropin and CT scan were done. Thorough Gross examination was carried out and salient features were noted down.The gross specimens were fixed in 10%neutral buffered formalin for overnight fixation. Next morning , gross examination of fixed specimens is done and sections are taken from representative sites. These sections are further processed into Automated tissue processor through 3 basis steps of dehydration in acetone , clearing with xylene , impregnation . After processing , sections are embedded in Paraffin to make Paraffin blocks. These blocks are then cut serially in three to five micron thickness using rotatory microtone to prepare slides. Routine H&E stained slides are made and further examined for final diagnosis which were then classified and studied as per WHO Histological classification of Testicular tumors.

Results and Observations

In my study , Non-neoplastic lesions were seen among all age groups , but majority were found to be among 21-30 years of age group accounting about 18.9% of total occurrence. Neoplastic lesions were seen among all age groups , but majority were seen between 21-50 years of age. Youngest patient was 24 years old and eldest patient was 85 years old. Most common symptom is scrotal swelling followed by scrotal pain , testicular pain, fever , abdominal pain and sometimes with abdominal lump, weight loss and anorexia. Among non-neoplastic lesions 142 cases were found to be unilateral. There were 6 cases have bilateral involvement. Among neoplastic lesions , all 19 cases was found to have unilateral involvement.

In my study out of 167 cases , 19 were neoplastic out of which 17 testicular and 2 were paratesticular neoplasia. In paratesticular both were benign cases , one was lipoma and other was neurofibroma. Out of 17 testicular neoplasia, 14 cases were malignant , 1 case was IntraTubular Germ Cell Neoplasia and 2 benign cases of Mature Teratoma.

Discussion

Study of 167 cases cases of Testicular and Paratesticular lesions was done between May 2016 to May 2019 at B.J.Medical College & Civil Hospital Ahmedabad , the Premier Tertiary Care Teaching Hospital in Gujarat.

In my study, out of 167 cases 148 (88.6%) cases were malignant , 1 case(5.3%) is of Intratubular Germ cell neoplasia and 4 cases (21%) were benign lesions. Comparative analysis of incidence is done with various other studies and present study . In my study , total 109 cases of Non Neoplastic Testicular lesions were studied and most common lesion is non specific epididymo-orchitis (30.3%)followed by testicular torsion (27.5%) which is quite similar to the study done by ***Abba K et al*** [8]**.** Testicular abscess and undescended testis are also common in my study which is comparable with study done by ***Patel MB et al*** [5]and ***Reddy H et al***[9]**.** In my study most common non-neoplastic paratesticular lesions is hydrocele which is also in study done by ***Abba K et al***[8]**.** In my study 78.9% of all Testicular and Paratesticular neoplasia are Germ Cell Tumor which is quite similar to the study done by ***Musatq et al***[10] (2007) and ***Gill et al*** [11](2000). Average number of testicular neoplasia is 6.6 which is similar to other studies. Non - Hodgkin's lymphoma is uncommon disease , comprises 5% of all testicular neoplasms. In the study , 2 cases were found out of 17 cases of testicular neoplasm (11.8%) which is similar to ***Gill et al***[11]**.** The study done by various authors regarding incidence of benign and malignant lesions were compared with my study. In present study , malignant lesions constituted 73.7% and benign lesions constituted 21% which are similar to other studies.

In this study , out of 167 cases 162 cases were found to be unilateral among which 78 cases were showing Right sided involvement and 83 cases were showing Left sided involvement . 6 cases were found to have bilateral involvement. The study done by various authors regarding commonest mode of presentation was compared with my study. The testicular swelling constituted 83% which is almost equal to earlier studies.

Table 1.Histopathological Diagnosis of Non Neoplastic Testicular lesions

Serial No.	Histological Diagnosis	No. of cases	Percentage (n=109)
1	Undescended testis	12	11
2	Ectopic Testis	2	1.9
3	Testicular Feminization Syndrome	1	0.9
4	Sertoli cell only syndrome	1	0.9
5	Tuberculous epididymoorchitis	8	7.3
6	Non specific epididymoorchitis	33	30.3
7	Testicular Abscess	22	20.2
8	Testicular Torsion	30	27.5
	Total	109	100

Table 2.Histopathological Diagnosis of Nonneoplastic Paratesticular lesions

Serial No.	Histological Diagnosis	No. of cases	Percentage% (n=39)
1	Scrotal Abscess	6	15.4
2	Fournier's gangrene	2	5
3	Epididymal cyst	5	12.8
4	Hydrocele	18	46.3
5	Varicocele	3	7.7
6	Pyocele	2	5
7	Non specific Funiculitis	1	2.6
8	Epidermoid cyst	1	2.6
9	Fibrosed Scrotum	1	2.6
	Total	39	100

Table 3.Histopathological Diagnosis of Neoplastic Testicular and Paratesticular lesions

Serial No.	Histopathological Diagnosis	No. of cases	Percentage (n=19)
1	Benign		
	Mature Teratoma	2	10.3
	Neurofibroma	1	5.3
	Lipoma	1	5.3
2	Intratubular Germ cell Neoplasia	1	5.3
3	Malignant		
	Seminoma		
	Classical Seminoma	5	26.3
	Spermatocytic Seminoma	1	5.3
	Anaplastic Seminoma	2	10.5
	Mixed Germ Cell Tumor	4	21
	Non-Hodgkin's Lymphoma	2	10.5
	Total	19	100

In the study the age incidence of non-neoplastic testicular lesions is similar in 2nd , 3rd , 4th ,5th and 6th decade of life with maximum incidence is in commonly found between 21 to 30 years of age. 3rd decade with 28 cases (16.2%) out of total 148 non-neoplastic cases , followed by 25 , 22 &21 cases in 6th, 5th and 4th decade respectively with incidence rate of 16.9%, 14.9% &14.2% respectively. We found 12 cases of Undescended testis out of 148 cases (8.1%). Age ranges from 7 to 45 years . ***Abbe K et al***[8] (2016) recorded 7 cases (10%) of undescended testis in their study. For Tuberculous epididymoorchitis , we found 8 cases out of 148 cases (5.4%). Age was ranging from 18-63 years . Mean age was found to be 49.6% years which is similar to ***Suankwan U et al***[12]**.** Testicular abscess was found in 22 cases out of 148 cases (14.9%) in our study. Age ranging from from 21-80 years. There were 33 cases of Non -specific epididymoorchitis out of 148 cases (22.3%). Age ranging from 22-85 years which is similar to the study given by ***Kaver I et al***[13]**.** Torsion and infarction , constituted 30 cases out of 148 cases (20.3%) in our study. Age ranging from birth to 60 years . Mean age 26.5years which is similar to study given by ***Cuckow et al***[14]**.** In my study Hydrocele was found to be the most common Paratesticular lesion , constituted 18 out of 39 Non-neoplastic paratesticular lesions (46.5%) with age ranging from 8 to 79 years. In ***Abba K et al***[8] (2016) study , 17 out of 28 cases (60.7%) of Non -neoplastic Paratesticular were Hydrocele. There are 5 cases (12.8%)of Epididymal cyst in my study with age ranges from 24 to 72 years. ***Abba K et al***[8] (2016) reported 8 cases (11.4%) in their study ***Khandeparkar et al***[15] (2015) reported 17 cases (36.2%) in their study . Though neoplastic lesions are most common in 4th decade of life . In our study the age incidence of neoplastic lesions in 4th,5th &3rd decade are 31% , 26.3% &21.1% respectively which is similar to study given by ***Reddy and Ranaganayakamma***[16] (1966)-19.6%. Other studies done - ***Moghe et al***[17] 1970 showed 17.7% and ***Collins and Pugh***[2] 1964 showed 17.6% which coincides with our study.

Conclusion

In conclusion , we would like to emphasize the

need for early detection and diagnosis. Thus early intervention in cases of testicular and para-testicular lesions , translates to longer life expectancy of patients with decreased morbidity and mortality . Despite new techniques and in imaging and tumor marker assay, the diagnosis of testicular lesions is primarily dependent upon histopathological examination.

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