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Lesions of Male Genital Tract: A Histopathological Study of 200 Cases.

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Research Article

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ABSTRACT

Lesions of male genital tract form a relatively small but highly important part of pathological practice. They constitute a group of lesions which are difficult to detect and treat because of their anatomical locations, biological characters as well as their implications. To study the frequency of lesions of male genital tract. The prospective study was conducted on 200 cases of tumours and tumour-like lesions of male genital tract, received in our department of pathology. Multiple tissue pieces from suspicious and normal area were taken, processed and examined after routine H & E staining. Out of the total 200 cases, majority of the lesions were of prostate (64.5%) followed by penis (13.5%), testis (7.0%) and scrotum. Among prostate lesions, maximum cases were of Benign Prostate Hyperplasia (82%) followed by adenocarcinoma (11.6%) and in penile lesions maximum cases were of squamous cell carcinoma (65.5%), amongst testicular lesions maximum cases were of seminoma (35%) followed by teratoma (14%).In scrotal lesions maximum cases were of hydrocele (39%) followed by epidermal cysts (26%).BPH outnumbered all the lesions of male genital tract followed by squamous cell carcinoma of penis.

INTRODUCTION

Lesions of male genital tract form a relatively small but highly important part of pathological practice. They constitute a group of lesions which are difficult to detect and treat because of their anatomical locations, biological characters as well as their implications. Their structure is variable and their behaviour is capricious. While some are malignant, others pursue a benign course. Tumours and tumour-like lesions of male genital tract constitute major public health problem in many countries of the world. Malignancies of these organs form a small group of total male cancers but geographically present with important variations; while the cancer of male genital tract occupies the top place in country like Indonesia (13%), the incidence is low in Japan (1%).

In India, malignant neoplasms of male genital tract account for 4% of all malignancies [1]. Benign Prostatic Hyperplasia (BPH) is so common in the ageing males that some consider it a normal part of ageing but it is included in the tumour like lesions [2]. Prostatic carcinoma is the most common internal malignancy amongst males in USA and is responsible for 10% of carcinoma deaths. Worldwide prostatic carcinoma is the fourth most common cancer in men [3]. Although large majority of prostatic cancers are glandular and are usually referred to as adenocarcinomas, the term carcinoma is generally preferred [2].

Malignant tumours of penis are relatively infrequent in USA accounting for less than one percent of all malignancies in males. However, it is common in some Asian, African and Latin American countries where it may constitute over ten percent of all cancers [4]. With very rare exceptions malignancy of penis is

virtually synonymous with squamous cell carcinoma. [5] Both benign and malignant tumours of scrotum are rare. Most of the benign tumours arise in the cutaneous adnexa. Most common malignant tumour of scrotum is squamous cell carcinoma [5].

Lesions of testis are relatively uncommon but are of great importance and have many-fold interest particularly in the histologic and histogenic fields since no other organ in body is victim of such a wide variety of neoplasms as the testis is. Testicular carcinoma is most common among Caucasian men and rare in African and Asian men [6].

The histopathological pattern and behaviour of these tumours differ in different age periods. Seminoma has not been reported in infancy, orchioblastoma and teratoma are most common in infants and children. Seminoma, Embryonal carcinoma, Teratoma and Teratocarcinoma are common in young adults, malignant lymphomas are more common in older age group [5]. Paratesticular tumours (testicular adnexal) tumours are intrascrotal tumours that arise from epididymis, spermatic cord and its coverings. With exceptions of cystadenoma of epididymis, occasional dermoid cysts of spermatic cord and rare papillary tumours, these tumours are of mesenchymal origin [7]. Keeping in view the wide variety and equal importance of male genital tract lesions, the present study was done to study the male genital tract lesions in our region.

MATERIAL AND METHODS

The present study was conducted on 200 cases of lesions of male genital tract, received in Department of Pathology, Govt. Medical College and Rajindra Hospital, Patiala. This department receives biopsy specimens from various surgical units of Rajindra Hospital Patiala, private hospitals and nursing homes in Patiala and adjoining areas. Biopsy material included resected specimens and/or biopsy from the lesion for histopathological diagnosis. The clinical data, histopathological findings and diagnosis were recorded on the pre-designed proforma. Necessary information was collected from the proforma received along with the biopsy material. The received specimens were carefully examined and dimensions were noted. Multiple tissue pieces from different areas, i.e. suspicious, abnormal and normal areas were taken and processed. One section from each lobe was processed. Routine H & E (Haematoxylin and Eosin) staining was done in all the cases. The sections were examined microscopically. The final diagnosis and clinical data were recorded and analyzed with special reference to histopathological type.

Observations

Out of total 200 specimens total number of benign tumours was 10, premalignant lesions were 4 in number, total malignant tumours were 44 and total number of tumour-like lesions of male genital tract was 142.

Out of 200 total specimens majority of the cases were that of prostate (129; 64.5%), (27; 13.5%) cases were that of penis, (23; 11.5%) cases were that of scrotal swellings and (14; 7%) cases were of testis. The study included some miscellaneous lesions like spermatocele, epididymal cysts, sperm granulomas etc, which constituted 3.5% out of total 200 cases.(Table-1)

106 out of 129 prostate specimens were of benign prostate hyperplasia . Adenocarcinoma [Fig-1(a) & (b)] was the next most common lesion found in15 prostate specimens. PIN was found in 4 cases and leiomyoma was seen in only 2 cases. Only 1 case of granulomatous prostatitis was seen. Malignant tumours of the prostate numbering 16 constituted 35.7% of all the 44 malignant tumours of the male genital tract. All the reported cases were of adenocarcinoma except one case of transitional cell carcinoma. (Table -2). 17 out of the 27 penile lesions majority were of squamous cell carcinoma.[Fig-2(a) & (b)] Epidermal cysts were the next most common lesions found in 5 cases. Squamous cell papilloma was found in 2 cases; fibroma and hamartoma were found in 1 case each. Malignant tumours of penis numbering 18 constituted 39% of all the 44 malignant tumours of male genital tract. (Table-3)

5 out of the 14 testicular lesions were of seminoma [Fig-3(a) & (b)] and teratoma was the next most common lesion. Malignant tumours of the testis numbering 8 constituted 17% of all the 44 malignant tumours of the male genital tract. (Table 4)

9 out of total 23 scrotal lesions were of hydrocele , followed by epidermal cysts found in 6 cases which included sebaceous cysts, keratin cysts, calcinosis cutis etc. 3 benign lesions were observed out of which 2 cases were of fibroma and 1 case was of Hemangioma. 2 cases of malignant lesion-squamous cell

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carcinoma (well differentiated) were also observed. Malignant tumours of scrotum constituted 3.4% of all the male genital tract malignancies. Out of total 200 cases of lesions of male genital tract, only 7 cases (3.5%) were of miscellaneous lesions which included 2 epididymal serous cysts, 2 spermatoceles and 3 sperm granulomas.(Table-5)

Table 1: Distribution of various lesions of male genital tract (N=200)

S. no.	Name of organ	No. of tumours and tumour-like lesions	Percentage
1	Prostate	129	64.5%
2	Penis	27	13.5%
3	Testis	14	7.0%
4	Scrotum	23	11.5%
5	Miscellaneous	7	3.5%
	Total	200	100%

Table 2: Prostate lesions (N=129)

S. no	Diagnosis	Category	No. of cases	Percentage
1	Leiomyoma	Benign	2	1.5%
2	PIN	Premalignant	4	3.1%
3	Adenocarcinoma	Malignant	15	11.6%
4	Transitional cell ca	Malignant	1	0.8%
5	BPH	Tumour-like lesion	106	82%
6	Granulomatous prostatitis	Tumour-like lesion	1	0.7%
	Total		129	100%

Table 3: Penile lesions (N=27)

S. no	Diagnosis	Category	No. of cases	Percentage
1	Sqamous cell papilloma	Benign	2	7.4%
2	Fibroma	Benign	1	3.7%
3	Squamous cell carcinoma	Malignant	17	65.5%
4	Malignant melanoma	Malignant	1	0.8%
5	Epidermal cyst	Tumour-like lesion	5	18.5%
6	Hamartoma	Tumour-like lesion	1	3.7%
	Total		27	100%

Table 4: Testicular lesions (N=14)

S. no	Diagnosis	Category	No. of cases	Percentage
1	Mature teratoma	Benign	2	14%
2	Seminoma	Malignant	5	35%
3	Embryonal carcinoma	Malignant	1	7%
4	Immature teratoma	Malignant	1	7%
5	Orchioblastoma	Malignant	1	7%
6	Tubercular orchitis	Tumour-like lesions	1	7%
7	Epidermoid cysts	Tumour-like lesions	2	14%
8	Hamartoma	Tumour-like lesions	1	7%
	Total		14	100%

Table 5: Scrotal lesions (N=23)

S. no.	Diagnosis	Category	No. of cases	Percentage
1	Fibroma	Benign	2	8.6%
2	Hemangioma	Benign	1	4.3%
3	Squamous cell ca	Malignant	2	8.6%
4	Hydrocele	Tumour-like lesion	9	39%
5	Epidermal cysts	Tumour-like lesion	6	26%
6	Calcinosis cutis	Tumour-like lesion	1	4.3%
7	Hamartoma	Tumour-like lesion	2	8.6%
	Total		23	100%

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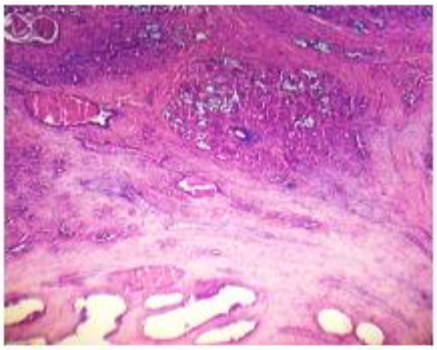
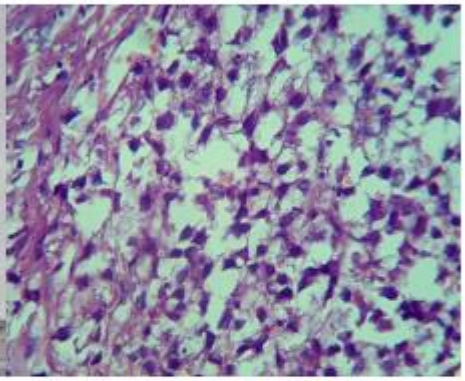
1(a) Gross picture of transurethral resection of prostate chips



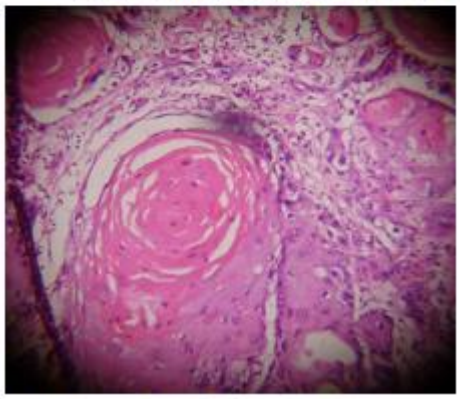
1(b): Adenocarcinoma of prostate; infiltrate pattern of growth with area of mucin (H & E x 100)

2(a) Seminoma : Fairly well-circumscribed, Fleshy and homogenous mass



2(b) Large clear cells with distinct cell borders, pale nuclei & prominent nucleolei (H&E stainx400)

3(a) Gross photograph of carcinoma of Penis showing Endophytic growth.



3(b) Squamous cell carcinoma penis showing well-differentiated keratin pearls (H&E stainx100)

DISCUSSION

In the present study, a total of 16 malignant tumours of the prostate were observed. They constituted 34.7% of all the malignant tumours of male genital tract observed. It is slightly less than 40.34% reported from Amritsar but, higher when compared to 21.6% reported from Nagpur [8, 9]. A higher figure of 45.5% for the relative frequency of carcinoma prostate was also reported by E.L Kassaby et al [10]. We observed a total of 18 malignant neoplasms of the penis. They constituted 39% of all male genital tract malignancies. In India, the reported frequencies vary from 2.8% to 20% of all malignancies in men [1]. Nagpal et al reported a relative frequency of malignant tumours of penis at 42.4%, in a study at Amritsar [11]. All the cases of penile cancer observed by us were squamous cell carcinomas except one case of malignant melanoma. A study spanning 18 years in Amritsar reported squamous cell carcinoma in 100% cases of penile cancers [12]. Novak et al found squamous cell carcinoma in 91% cases. [13] Other studies have also made similar observations [14, 4].

In the present study, malignant tumours of the testis constituted 17% of all the malignant tumours of male genital tract. Moghe et al, observed a lower frequency of 10.7% [15]. Nagpal et al from Amritsar reported a frequency of 15% which is comparable to this study. [11] In the present study, maximum number

of cases was of seminoma (62.5%). Grover et al in their study reported that frequency of seminoma was 56% [16].

The relative frequency of scrotal carcinoma in the present study was 3.8% of all malignancies. Nagpal et al, observed that relative frequency of scrotal carcinoma was (0.7%) [11]. Wright et al stated that scrotal malignancies are rare and the most common histological type is squamous cell carcinoma. [17] In the present study too, both the patients were suffering from squamous cell carcinoma.

SUMMARY AND CONCLUSIONS

Prostatic lesions outnumbered all other lesions of male genital tract with adenocarcinoma of proststе followed by squamous cells carcinoma of penis. Seminoma was the commonest malignant tumour observed in testicular lesions. Miscellaneous lesions constituted 35% of all the 200 cases and included spermatoceles, sperm granulomas and epididymal serous cysts.

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