

A study of incidence and management of carcinoma of penis

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Abstract

Introduction: Presentation of carcinoma of penis is usually delayed. Surprisingly an organ handled on daily basis is affected, but neglected. It is unacceptable to believe ignorance as a single factor as responsible, but probably factors like shame, guilt play a greater role. Misconception of it as a venereal disease makes patient keep the disease hidden for long. Early detection of the pathology is of paramount importance in terms of early treatment and reduces the surgical and psychological traumas associated with partial or total penectomy. **Aims and Objective:** To study the incidence of Carcinoma of penis diagnosed in the tertiary care institute and various treatment modalities used. **Material and Method:** The present study was conducted in the department of surgery of RIMS medical college and hospital. After receiving the institutional ethical committee approval the study was started. The study was conducted from Jan 2014 to Dec 2014. All the cases of various carcinomas diagnosed in the institute were enrolled in the study. The diagnosis was confirmed by using various diagnostic methods such as FNAC, histology etc. Total 495 cases of various carcinomas among males were diagnosed in the institute. Out of them 12 cases were confirmed to be suffering from carcinoma penis. The cases of carcinoma penis were further investigated and followed up regularly. Information regarding age, religion, occupation, socio economic status, whether circumcised or not, presence and duration of phimosis, smoker/alcoholic, penile hygiene, presenting symptoms and their duration, previous treatments taken, evidence of any preexisting venereal diseases or penile cutaneous disorders reviewed by dermato-venereologist, the clinical features, histopathological findings and treatment given are compiled and recorded. **Results:** Incidence of carcinoma of penis was 2.42%. Peak incidence in the age group 51-60 years. Majority of the patients were belonging to lower socioeconomic class. All the 12 patients were Hindus and all were uncircumcised. 66.67% duration of disease was more than one year. 25% patients had history of venereal disease in past. Ulcer or growth on penis was the most common (83.33%) presenting complaint in the study. Partial amputation was done in 33.33% cases whereas total amputation was done in 41.67%. It was seen that 25% patients were having palpable inguinal nodes and were subjected to radiotherapy after control of primary tumor. One case was having inguinal metastasis and was also treated by radiotherapy. In 25% cases the carcinoma was in advanced stage and was treated by chemotherapy. **Conclusion:** The incidence of carcinoma penis the present study was 2.42%. Lack of circumcision and low socio-economic status was associated with poor penile hygiene and appear to be main predisposing factors for carcinoma of penis. Among the various available management options surgical option was used commonly followed by radio and chemo therapy.

Keywords: carcinoma penis, ulcer, Partial amputation.

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Received Date: 15/06/2015 Revised Date: 27/06/2015 Accepted Date: 01/07/2015

Access this article online

Quick Response Code:	Website: www.statperson.com
	DOI: 02 July 2015

INTRODUCTION

Carcinoma of the penis is an uncommon tumor with low incidence in western countries. But ca penis is not uncommon in India.¹ Wide variation in frequency of carcinoma of penis was observed.² Penile cancer most commonly affects men between the ages of 51 to 60 years and presents with well or moderately differentiated disease. Although most cases are localized, about 25% of patients will have regional involvement and 4% will have distant disease at the time of diagnosis.³ The most powerful prognostic indicator in the absence of distant disease is nodal involvement. The 5-year survival rate for

carcinoma in situ is over 90%, but drops to 60% with nodal involvement and to 20% for patients with metastatic disease.^{4,5} Presentation of carcinoma of penis is usually delayed. Surprisingly an organ handled on daily basis is affected, but neglected. It is unacceptable to believe ignorance as a single factor as responsible, but probably factors like shame, guilt play a greater role. Misconception of it as a venereal disease makes patient keep the disease hidden for long. Early detection of the pathology is of paramount importance in terms of early treatment and reduces the surgical and psychological traumas associated with partial or total penectomy.

AIMS AND OBJECTIVE

To study the incidence of Carcinoma of penis diagnosed in the tertiary care institute and various treatment modalities used.

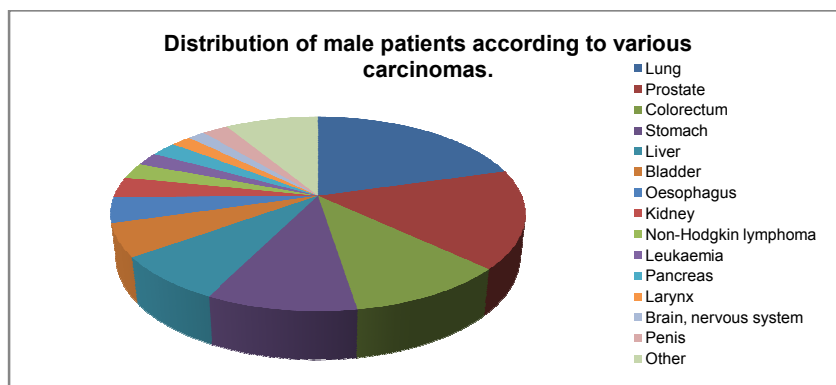
MATERIAL AND METHOD

The present study was conducted in the department of surgery of RIMS medical college and hospital. After receiving the institutional ethical committee approval the study was started. The study was conducted from Jan 2014 to Dec 2014. All the cases of various carcinomas diagnosed in the institute were enrolled in the study. The diagnosis was confirmed by using various diagnostic methods such as FNAC, histology etc. Total 495 cases of various carcinomas among males were diagnosed in the institute. Out of them 12 cases were confirmed to be suffering from carcinoma penis. The cases of carcinoma penis were further investigated and followed up regularly. Information regarding age, religion, occupation, socio economic status, whether circumcised or not, presence and duration of phimosis, smoker/alcoholic, penile hygiene, presenting symptoms and their duration, previous treatments taken, evidence of any preexisting venereal diseases or penile cutaneous disorders reviewed by dermato-venereologist, the clinical features, histopathological findings and treatment given are compiled and recorded.

RESULTS

Table 1: Distribution of male patients according to various carcinomas

Carcinoma	No. of patients (n=495)	Percentage
Lung	102	20.61%
Prostate	81	16.36%
Colorectum	52	10.51%
Stomach	49	9.90%
Liver	38	7.68%
Bladder	27	5.45%
Oesophagus	21	4.24%
Kidney	17	3.43%
Non-Hodgkin lymphoma	13	2.63%
Leukaemia	11	2.22%
Pancreas	12	2.42%
Larynx	9	1.82%
Brain, nervous system	8	1.62%
Penis	12	2.42%
Other	43	8.69%



In the present study total 495 cases of various carcinomas were diagnosed in the institute. Out of them 12 cases

were confirmed to be suffering from carcinoma penis. Thus the incidence of carcinoma of penis was 2.42%.

Table 2: Demographic distribution of patients

Variable	No. of patients	Percentage	
Age in years	< 30	0	0.00
	31 to 40	1	8.33
	41 to 50	1	8.33
	51 to 60	6	50.00
	61 to 70	3	25.00
Socioeconomic class	> 70	1	8.33
	Higher	1	8.33
	Middle	2	16.67
Religion	Lower	9	75.00
	Hindu	12	100.00
	Other	0	0.00

The age of the patients ranged from 34 years to 67 years with peak incidence in the age group 51-60 years. Majority of the patients were belonging to lower

socioeconomic class. All the 12 patients were Hindus and all were uncircumcised.

Table 3: Distribution of patients according to presenting features

Variable	No. of patients	Percentage	
Duration of disease	< 6mth	0	0.00
	6 -12 mth	4	33.33
	>12 mth	8	66.67
P/h of VD	Present	3	25.00
	Absent	9	75.00
Signs and Symptoms	Growth/ ulcer on glans	10	83.33
	Discharge	8	66.67
	Phimosis	7	58.33
	Inguinal lymphadenopathy	6	50.00
	Micturation disturbances	2	16.67

It was observed that 66.67% duration of disease was more than one year. 25% patients had history of venereal disease in past. Ulcer or growth on penis was the most common

(83.33%) presenting complaint in the study. Discharge and phimosis was observed in 66.67% and 58.33% patient respectively.

Table 4: Distribution of patients according to various treatment modalities used

Mode of treatment*	No. of patients	Percentage
Partial amputation	4	33.33
Total amputation	5	41.67
Radiotherapy (Primary tumor)	3	25.00
Radiotherapy (Inguinal Metastasis)	1	8.33
Chemotherapy	3	25.00

* Multiple responses were recorded

Partial amputation was done in 33.33% cases whereas total amputation was done in 41.67%. It was seen that 25% patients were having palpable inguinal nodes and were subjected to radiotherapy after control of primary tumor. One case was having inguinal metastasis and was also treated by radiotherapy. In 25% cases the carcinoma was in advanced stage and was treated by chemotherapy.

DISCUSSION

The present study was conducted in the department of surgery of RIMS medical college and hospital. Total 495 cases of various carcinomas were observed in the institute during the study duration. Out of them 12 cases were confirmed to be suffering from carcinoma penis. Thus the incidence of carcinoma of penis was 2.42%. Similar findings were also observed by Paymaster *et al*⁶ and Thomas *et al*⁷ (2.8% and 2% respectively). In contradictory to the present study Rai *et al*⁸ and

Shrivastava *et al*⁹ observed higher incidence of carcinoma penis in their study (10.0% and 6.4% respectively). Thus wide variation in frequency of carcinoma of penis was observed.² The age of the patients ranged from 34 years to 67 years with peak incidence in the age group 51-60 years. The age of incidence was comparable with the studies by Heynes CF *et al.* (1997),¹⁰ Di Capua Sacoto *et al* (2009).¹¹ Majority of the patients were belonging to lower socioeconomic class. Most of the patients had no formal education. Thus the knowledge about penile hygiene also was very poor. This poor penile hygiene was the probable cause for carcinogenesis. All the 12 patients were Hindus and all were uncircumcised. Hindus, who do not practice circumcision, are commonly affected by carcinoma of penis while Muslims who practice circumcision between the age of 4-9 years are relatively immune. Reddy CR *et al*¹² also opined that lack of penile hygiene, poor sexual hygiene and lack of cleanliness with associated phimosis may account for variability in frequency and high incidence of carcinoma of penis in some areas. It was observed that 66.67% duration of disease was more than one year. Late presentation was also reported by several authors from developing countries. Ignorance, feeling of shame and embarrassment were the common reasons for late presentation. 25% patients had history of venereal disease in past. In contradictory to present study J. C. Soria *et al*¹³ observed 6.8% of patients of penile cancer had history of venereal diseases. Ulcer or growth on penis was the most common (83.33%) presenting complaint in the study. Discharge and phimosis was observed in 66.67% and 58.33% patient respectively. Khezri *et al*¹⁴ and Thoms *et al*⁷ also observed penile ulceration or growth as the common presenting clinical feature. Majority of the studies reported glans and prepuce as the sites of commencement of disease which extends to the shaft later. There have been many treatment options available for the management of ca penis cases. The primary goal in the management of penile cancer is to eliminate the malignancy while preserving a cosmetically acceptable and functional penis. Achievement of this goal depends on early diagnosis and treatment, meaning that immediate biopsies of suspicious penile lesions are necessary. In our study Partial amputation was done in 33.33% cases whereas total amputation was done in 41.67%. According to Gowardhan B *et al*¹⁵ a penile preserving option is suitable for most patients with a primary tumor < 4 cm in size and a stage < T3 as first line treatment, with more radical procedures such as partial or total penectomy reserved for as a second line treatment. It was seen that 25% patients were having palpable inguinal nodes and were subjected to radiotherapy after control of primary tumor. One case was having inguinal metastasis and was

also treated by radiotherapy. Radiation therapy can be used as an alternative to surgery in selected patients. The psychological trauma associated with partial or complete penectomy has encouraged radiation therapists to explore various techniques of treatment for penile cancer, but, unfortunately, few patients with penile cancer are candidates for radiation therapy. One of the advantages of radiation therapy is the potential to maintain potency. In 25% cases the carcinoma was in advanced stage and was treated by chemotherapy. A wide variety of chemotherapeutic agents are being used to treat patients with metastases beyond the pelvic and inguinal lymph nodes. The most commonly used drugs include cisplatin, bleomycin, methotrexate, and fluorouracil. Response rates for cisplatin monotherapy range from 15-23%, and these have been largely partial responses of short duration. Bleomycin alone or combined with radiation or vincristine and methotrexate has yielded a partial and/or complete response rate of 45% in patients with minimal metastatic disease. Although chemotherapy has been generally ineffective in treating patients with large tumor burdens, Bermejo *et al* reported on 10 patients with pelvic and inguinal metastases who were managed with combination chemotherapy (ifosfamide, paclitaxel, cisplatin) followed by surgery. Four patients had a complete response, one a partial response, and 5 had stable disease. The median survival in this group was 26 months, although those with 3 or fewer nodal metastases had a median survival of 48 months.¹⁶

CONCLUSION

The incidence of carcinoma penis the present study was 2.42%. Lack of circumcision and low socio-economic status was associated with poor penile hygiene and appear to be main predisposing factors for carcinoma of penis. Among the various available management options surgical option was used commonly followed by radio and chemo therapy.

REFERENCES

1. Pettaway CA, Lynch DF, Davi JW. Tumors of the penis. Campbell-Walsh Urology. 9th edition 2007; 959-992.
2. Reddy CR, Raghaviah NV, Mouli KC: Prevalence of Carcinoma of Penis with special reference to India. Int Surg. 1975 Sep; 60 (9): 474-6.
3. Barnholtz-Sloan JS, Maldonado JL, Pow-Sang J, *et al.* Incidence trends in primary malignant penile cancer. Urol Oncol 2007; 25:361-7.
4. Pompao ACL, Heyns C, Abrams P, eds. International Consultation on Penile Cancer; 2009.
5. Pizzocaro G, Algaba F, Horenblas S, *et al.* EAU penile cancer guidelines 2009. Eur Urol 2010; 57:1002-12.
6. Paymaster J., Gangadharan P.: Cancer of penis in India : Jr. urol., 97: 110-113, 1697

7. Thomas J.D., Robert Morrison: Secondary carcinoma of the penis : Br. Jr. Surg., 40: 388-390, 1967
8. Rai K.M.: Carcinoma of penis: Ind. Jr. Radio., 23: 155-156, 1959
9. Shrivastava S. P. and Shrivastava K.P. : Carcinoma of penis : Ind. Jr. Surg., 25: 255-265, 1963
10. Heynes CF, Van Vollenhoven P, Steenkamp JW, Allen FJ. Cancer of the penis. S Afr J Surg. 1997 Aug; 35 (3): 120-4.
11. Di Capua Sacoto C, Lujan Marco S, Morales Solchaga G, Budia Alba A, Pontones Moreno JL, Jimenez Cruz JF. Cancer of the penis. Our experience in 15 years. Actas Urol Esp. 2009 Feb; 33 (2): 143-8.
12. Reddy CR, Devendranath V, Pratap S: Carcinoma of penis-role of phimosis. Urology1984; 24: 85-88.
13. J C Soria et al. Squamous cell carcinoma of the penis: Multivariate analysis of prognostic factors and natural history in a mono centric study with a conservative policy. Annals of Oncology 8: 1089-1098, 1997.
14. Khezri A. A., Dunn M. *et al*: Carcinoma of penis: Br. Jr. Urol., 50: 275-279, 1978
15. Gowardhan B, Greene D. Penile-preserving surgery ill penile carcinoma. Indian J Urol 2006; 22: 341-4.
16. Bermejo C, Busby JE, Spiess PE, *et al*. Neoadjuvant chemotherapy followed by aggressive surgical consolidation for metastatic penile squamous cell carcinoma. J Urol. Apr 2007; 177(4):1335-8.

Source of Support: None Declared
Conflict of Interest: None Declared