

Carcinoma of Penis: A Clinical Study

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Abstract

Background: Carcinoma penis is potentially curable if detected and treated early. Quite a number of patients refuse to mutilate amputation (partial/total) of penis out of ignorance, social and sexual reasons.

Materials and Methods: This prospective study was conducted on 20 patients. In the management of carcinoma penis patients in MGM Hospital, Warangal from a period between October 2009 and October 2011.

Results: Carcinoma of the penis has an incidence of 1.3% of all malignancies and 4.6% of all male malignancies in our hospital. Carcinoma penis was not found in first two decades of life. Youngest patient was 32 years old and oldest was 71 years old. Maximum incidence was found in 5th decade of life (45%). All the cases in our study were Hindus in whom circumcision is not practiced ritually. In present series, this disease mostly affected people who came from rural areas and belong to low-income group, illiterate, ignorant class of society. This can be attributed to lack of health education regarding exposure to venereal diseases, lack of personal hygiene, and social taboos.

Conclusion: Patients who undergo surgery for carcinoma penis should be explained the need for regular follow-up and self-examination of groin to detect early regional nodal metastasis so that they can be managed appropriately.

Key words: Carcinoma, Patients, Penis

INTRODUCTION

Carcinoma of the penis is an uncommon malignancy in Western countries, representing 0.4% of malignancies in males and 3.0% of all genitourinary cancers. However, penile cancer constitutes a major health problem in many countries in Asia, Africa, and South America, where it may comprise up to 10% of all malignancies. Despite these statistics, the incidence of penile cancer has been declining in many countries, partly because of increased attention to personal hygiene. It most commonly presents in the sixth decade of life but may occur in men younger than 40 years.¹⁻³

Cancer of the penis has been strongly associated with Phimosis⁴ and poor local hygiene. Phimosis is found in more than half the patients. The irritative effect of smegma, a by-product of bacterial action on desquamated epithelial cells within the preputial sac, is well known, although definitive evidence of its role in carcinogenesis. Neonatal circumcision⁵ as is practiced by Muslims virtually eliminates the occurrence of penile carcinoma. Delaying circumcision until puberty does not have the same benefit as neonatal circumcision, and adult circumcision certainly does not provide any protection against carcinoma of the penis. Neonatal circumcision protection against penile cancer.⁶

Local penile symptoms and signs most often draw attention to penile cancer. The clinical spectrum of penile cancer is varied, subtle areas of erythema or induration to a frankly ulcerated, fungating, and foul-smelling mass. As a rule, penile cancer is an “infected” malignancy, with infection playing an important role in the pathogenesis and ultimately in the presentation of the disease.

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Pain usually is not a prominent feature and is not proportional to the extent of local destruction. The lesion initially involves the prepuce and glans, often under a tight phimotic ring. In late stages, involvement and eventual destruction of the shaft of the penis are seen. Urethral involvement is usually a late feature, and even in advanced stages urethral obstruction is rarely seen. Instead, erosion of the urethra with the development of multiple fistulae leading to the so-called water can perineum may be seen. Rarely, inguinal ulceration may be the presenting symptom, and in such cases, the primary tumor is usually concealed within a phimotic preputial sac or the patient delays seeking medical help for social reasons. Patients with penile cancer, more than with other types of cancer, seem to delay seeking medical attention

More than 95% of penile carcinomas are squamous cell in origin. Non-squamous cell carcinomas consist of melanomas, basal cell carcinomas, lymphomas, and sarcomas.

In contrast to other malignancies, this carcinoma can be prevented by early circumcision. The prepuce, especially when phimosis is present is subjected to chronic irritation from retained smegma and infection (balanoposthitis). This ultimately leads to malignant degenerative changes in the lining epithelium.

Carcinoma penis is potentially curable if detected and treated early. Quite a number of patients refuse mutilating amputation (partial/total) of the penis out of ignorance, social and sexual reasons.

Carcinoma of the penis is quite prevalent in this region of Telangana which is still backward, and the majority of people of Telangana are poor, illiterate and exposed to sexually transmitted diseases (STD). Since much can be done both for its prevention and cure an attempt has been made in this study to look into various effective treatment modalities currently available for the management of carcinoma penis (Table 1).

METHODOLOGY

Inclusion Criteria

Patients with carcinoma penis.

Exclusion Criteria

Patients with carcinoma penis not willing for surgery.

Number of patients: 20.

All the patients ($N = 20$) selected as per criteria from October 2009 to October 2011 were admitted in surgical

unit of Mahatma Gandhi Memorial Hospital, Kakatiya Medical College, Warangal, Telangana, India, after Ethical Committee approval and patient consent.

RESULTS

A detailed study of carcinoma penis was made in all cases of carcinoma penis admitted from October 2009 to October 2011 in MGM Hospital, Warangal. Details of history, physical examination, investigations, management, and follow-up were recorded.

Hospital Incidence

A total number of male cases admitted to MGM Hospital during October 2009-2011 = 49,424.

Incidence of carcinoma penis in male hospital admissions = 0.0404%.

Total number of male cancer patients admitted = 431.

Incidence of carcinoma penis among male cancer patients = 4.64%.

Reddy *et al.* from Vishakhapatnam reported an incidence of 6.9 in Vizag and 13.76% of all male malignancies.

Gheckler *et al.* (1990) reported an incidence of 0.4-0.6% of all male cancers in the USA.

Age Incidence

The peak age incidence is in the fifth and sixth decade. Youngest patient is 32 years old and oldest is 71. A maximum number of cases were seen in the age group of the fifth decade. This coincides with the incidence given by various western authors.

Mean age of carcinoma penis in our study is 57 years.

Guerel *et al.* (1973) reported a mean age of 58 years and Derrick reported as 55 years.

Community Incidence

Hindus: 20

Muslims: 0

Christians: 0

Carcinoma Penis is not seen frequently in Muslims because of ritual circumcision practiced in early childhood.

Economic Status

Out of 20 patients, 16 patients belong to low socioeconomic status, 4 belong to middle socioeconomic status.

Table 1: Age distribution of carcinoma penis in our study

Age group	Number of patients (%)
0-10	0 (0)
11-20	0 (0)
21-30	0 (0)
31-40	1 (5)
41-50	4 (20)
51-60	9 (45)
61-70	5 (25)
71-80	1 (5)

Table 2: Frequency of symptoms

Symptom	Number of patients
Ulcer penis	15 patients
Foul discharge	8 patients
Phimosis	12 patients
Bleeding	6 patients
Pain	9 patients
Difficulty in micturition	5 patients
Itching	8 patients

Table 3: Site of lesion

Site	Number of patients
Glans penis	12 patients
Prepuce	5 patients
Shaft	1 patient
Corona	2 patients

Extramarital Sex

About 10 patients had extramarital sex which is a risk factor.

Personal Hygiene

Many patients had poor personal hygiene. Only 3 patients with carcinoma penis maintained good genital hygiene.

Smoking

About 14 out of 20 are smokers in the study which is an independent risk factor for penile cancer.

Antecedent Genital Lesions

History of phimosis was present in 12 patients, 8 patients had no phimosis, and only 3 patients underwent circumcision in adulthood. None underwent circumcision in childhood.

- History of balanoposthitis was present in 9 patients
- History of exposure to STD is present in patients
- History of hepatitis B surface antigen positive in 2 cases
- Venereal disease research laboratory was positive in 2 patients.

Clinical Symptomatology

Time lag between the onset and presentation at the hospital is between 3 months, more than 2 years. Majority presented within 1 year.

Table 4: Inguinal lymphadenopathy

Nodal status	Clinical	FNAC+VE	FNAC-VE
Unilateral N1	8	2	6
Bilateral N2	6	4	2
Pelvic N3	0	0	0

Table 5: Clinical staging (TNM)

Stage	n (%)
I	2 (10)
II	12 (60)
III	6 (30)
IV	0 (0)

This is due to ignorance in public to seek medical advice early for genital lesions.

There is a necessary to educate the general population about this cancer.

Frequency of Symptoms

The following is the prevalence of symptoms in the series (Table 2).

Presentation of Lesions

- Ulcerative growth 14 patients
- Ulcer 5 patients
- Ulcer hidden under phimosis 1 patient.

In this series, the glans penis was the most frequent site affected by carcinoma penis is glans followed by prepuce. This can be attributed to the fact that glans is more sensitive to irritation produced by collected smegma and chronic balanitis giving rise to changes in surface epithelia resulting in metaplasia and neoplasia (Table 3).

Heynes *et al.* in South African Journal of Surgery August 1997 reported T2 lesions comprising 48%.

Inguinal Lymphadenopathy

Significant lymphadenopathy was seen in 14 of 20 patients of which 8 cases had unilateral, 5 cases bilateral nodes. 2 of the unilateral and 4 of bilateral nodes persisted after treatment with antibiotics for 4 weeks and are positive for metastasis on fine-needle aspiration cytology (FNAC) (Table 4).

Other Regional Lymph Nodes

None of the patients had external or internal iliac lymphadenopathy.

Clinical Staging (TNM)

Sarin *et al.* (UK) reported prevalence of stage I lesion as 36%, stage II as 18%, stage III as 28%. In our study, the

prevalence of stage I is 10%, stage II is 60%, stage III is 30%, stage IV is 0% (Table 5).

Histological Diagnosis

In all the cases, the diagnosis was squamous cell carcinoma penis.

Distant Metastasis

No patient had evidence of distant metastasis.

Hospital Death

No patient suffered hospital death.

Treatment and Follow-up

Table 6 shows surgical treatment.

Radiotherapy

No patient was subjected to radiotherapy as all cases were operable.

Follow-up

Partial penectomy was done in 10 patients. Out of them, 2 did not come for follow-up. 6 cases had meatal stenosis subsequently for which urethral dilatation was done. None had loko-regional recurrence during the study period.

Total amputation and perineal urethrostomy were done in 4 patients. Out of them, one did not come for follow-up. 2 had meatal stenosis subsequently for which urethral dilatation was done. No loko-regional recurrence was found in the patients during the follow-up.

Total amputaion with bilateral block dissection done for 6 cases, during post operative period wound infection occured in all 6 patients and was managed by antibiotics. 5 patients developed flack neckrosis among them 3 cases were managed with ASD and SSG and 2 cases were managed with secondary sutiring. 3 patients developed Lymphedema and managed with limb elevation and crape bandage. 4 patients had metal stenosis urethral dilatation done.

DISCUSSION

Carcinoma of the penis has an incidence of 1.3% of all malignancies and 4.6% of all male malignancies in our hospital.

Carcinoma penis was not found in first two decades of life. Youngest patient was 32 years old and oldest was 71 years old. Maximum incidence was found in fifth decade of life (45%).

All the cases in our study were Hindus in whom circumcision is not practiced ritually. In the present series, this disease mostly affected people who came from rural areas and belong to low-income group, illiterate, and ignorant class of society. This can he attributed to lack of health education regarding exposure to venereal diseases, lack of personal hygiene, and social taboos.

In the majority of patients, the presenting complaint was an ulcerative growth. Most patients presented between 3 months and 1 year of onset of symptoms. Modesty, ignorance, and poverty on the part of the patient are main causes for the delay. It should be impressed on the people that early detection and adequate treatment offer better prognosis.

Phimosis is present in 60% of cases. History of STD and multiple sexual partners was present in 70% of cases.

Carcinoma of penis rarely involved urethra. In our series, glans was the most frequent site of involvement 55%.

Ultrasound of abdomen and pelvis was found to be useful in locally advanced cases to pick up pelvic node enlargement. However, none of the patient had pelvic lymphadenopathy.

Very early cases with lesion localized to prepuce can be treated by circumcision when a margin of 1 cm of healthy tissue is available proximal to growth. Those lesions limited to the glans and have not spread to the shaft should be treated either with radiation molds or by partial amputation of penis. It prevents a great psychological trauma which is common after total amputation of penis.

When the shaft is infiltrated up to the root of penis and when it is not possible to leave behind 2 cm healthy stump, total amputation of penis is the treatment of choice. It is combined with bilateral orchidectomy. When the growth has already spread to the root of the penis and the pre-pubic region, emasculation with post-operative radiotherapy should be added.

Most of the patients during follow-up complained of difficulty in passing urine due to meatal stenosis. During regular follow-up, urethral dilatation was done.

In the present study, 14 patients had inguinal lymphadenopathy at presentation. However, 8 of them

Table 6: Surgical treatment

Nature of surgery	Number of patients (%)
Circumcision	0 (0)
Partial penectomy	12 (60)
Total penectomy with perineal urethrostomy	4 (20)
Emasculation with block dissection	6 (30)

regressed after 4 weeks course of antibiotics showing inflammatory nature of the lymph nodes. 6 of the patients had lymph node positive for metastasis. Most of the unilaterally enlarged nodes regressed (87.5%). In bilaterally enlarged nodes, only 33% regressed. Pathologically positive nodes mostly presented with ulcer type of lesion.

Bilateral block dissection is recommended for unilateral adenopathy at the time of presentation because there is 50% chance of metastasis.

Flap necrosis and post-operative lymphedema were found to be the most common complications of inguinal dissection.

FNAC or frozen section proved metastatic nodes should be removed by block dissection. Advanced (fixed node, more than 4 cm node) lesions should be treated by combination chemotherapy followed by surgery or radiotherapy.

CONCLUSION

Patients who undergo surgery for carcinoma penis should be explained the need for regular follow-up and self-examination of groin to detect early regional nodal metastasis so that they can be managed appropriately.

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