



INCIDENCE OF CARCINOMA PENIS AND EVALUATION OF VARIOUS TREATMENT MODALITIES OF CARCINOMA PENIS ACCORDING TO VARIOUS STAGES OF CARCINOMA PENIS

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ABSTRACT **Objective** - Incidence of carcinoma penis and evaluation of various treatment modalities of carcinoma penis according to various stages of carcinoma penis

Material and methods - Patients suffering from carcinoma of penis, seen at L. L. R. & associated hospital and J. K. Cancer Institute have formed the basis of the present study. Case seen between Jan 2013 to Sept 2014 were taken up for the study. A total of 40 cases were taken up for the study. Of the 40 cases under study 21 cases formed the retrospective part of the study and 19 cases formed the prospective part of study.

Result and Conclusion - In our study age varied from 26-80 years with peak incidence in the age group of 41-50 years and median age of 51.3 years.

Surgery may be the treatment of choice but radiotherapy may also be curative to carcinoma of penis patients. Early stage (I & II) patients were treated mainly by surgery (66%) or radiotherapy while late stage (III & IV) patients were treated by the combination of surgery and radiotherapy (45%).

KEYWORDS :

INTRODUCTION:

Penile cancer is uncommon, but, when it is diagnosed, it is psychologically devastating to the patient and often presents a challenge, to the uro-oncologist. Benign, premalignant, and malignant conditions must be differentiated. Penile squamous cell carcinoma, the most common penile malignancy, behaves similarly to squamous cell carcinoma in other parts of the skin.

Cancer of penis is a disease of even geographic distribution is primarily disease of uncivilized countries in which circumcision is not practiced. While less than 1% of male malignancies in the U.S. are carcinoma of penis (WHO -1973). The disease accounts for 12% of all the malignancies among Hindus of India.⁽¹⁾

Lower education and higher poverty were found to be associated with increased penile, cervical and vaginal invasive cancer incidence rate. These findings illustrate the association between Socio Economical Status variable and development of HPV associated cancer. The finding also highlight the importance of considering Socio Economical Status factors when developing policies to increase access to medical care and reduce cancer disparities in United State.⁽²⁾

There is no specific grading system for Penile Cancer, although use has been made of the grading system for squamous cell carcinoma of the skin based on cell maturation.⁽³⁾ A new scoring system of Histological differentiation grade is given by Maiche A G.⁽⁴⁾ Penile Cancers have been staged per Jackson's system UICC TNM 1987 and AJCC which are most widely accepted. Assessment of staging of the disease is very essential prognostically and in deciding the exact course of treatment of carcinoma penis.

During the last two decades, the management of penile carcinoma patients with impalpable regional lymph nodes has improved due to better knowledge of risks for metastasis, the introduction of modified lymphadenectomy, and sentinel node biopsy. Future perspectives in penile cancer comprises continuing research to reduce mutilation without jeopardizing clinical outcome.⁽⁵⁾

Therapeutic success is largely depend on lymph node status. Cancer related death is usually due to local complications such an erosion bleeding caused by the tumor or infected inguinal metastasis. The therapy for advanced penile cancer and its complications represents a challenge. Taking into consideration quality of life, the therapeutic strategy should be based on the patient's age, his sexual function, motivation and psychological condition, as well as previous illnesses and tumor biology.⁽⁶⁾

In recent years, the diagnostic techniques, surgical procedures, radiotherapy management and local and systemic chemotherapy used to detect and treat penile cancer have been greatly improved. In

addition, techniques of penile reconstruction have undergone major improvements, meaning that cancer eradication can be coupled with good cosmesis.

Material and Methods

Patients suffering from carcinoma of penis, seen at L. L. R. & associated hospital and J. K. Cancer Institute have formed the basis of the present study. Case seen between Jan 2013 to Sept 2014 were taken up for the study

A total of 40 cases were taken up for the study. Of the 40 cases under study 21 cases formed the retrospective part of the study and 19 cases formed the prospective part of study.

Method

PRE-OPERATIVE STAGING

UICC-TNM - 1978 system of classification was applied and preoperative staging was done clinically on the basis of Jackson's (1966) and AJCC staging systems.

HISTOPATHOLOGICAL STUDY

Biopsy was taken in all case from the primary growth. Post-operative specimen were also studied histopathologically. Gross study of primary lesion was performed. The lesions which excavated deeply beyond the margins of the ulcer were grouped in ulcerative type. In these cases metastasis was more common. Contact lesions in the form of satellite nodules were seen on the prepuce and glans at the same time. The lesions which were grouped in Proliferative (Exophytic) type did not infiltrate deeply but destroyed the skin of the shaft very much. In some cases it attained a large size and replaced the whole of shaft of penis.

Specimens were studied microscopically and grading of differentiation was performed in well differentiated (Broder's grade I), moderately differentiated (Broder's grade II) and poorly differentiated (Broder's grade IV) types for Squamous Cell Carcinoma.

TREATMENT

Patients were treated according to their respective staging. Surgery alone Radiotherapy or combined (Surg. + R.T.) modalities of treatment were used according to the need of individual patient, both for treatment of primary as well as secondary.

OBSERVATIONS

The present study is based on 40 cases of carcinoma of penis seen at L.L.R. Hospital and Associated Hospitals and J.K. Cancer Institute, Kanpur.

Maximum number of cases fell in the age group of 41 – 50 years, accounting to 40% of total cases, followed by patients between the age

group of 61 – 70 years, accounting to 20% of total cases the youngest patient in the present series was 26 years old whereas the oldest was 80 years of age. The median age at diagnosis was 51.3 years.

The following table I shows age incidence of the patient.

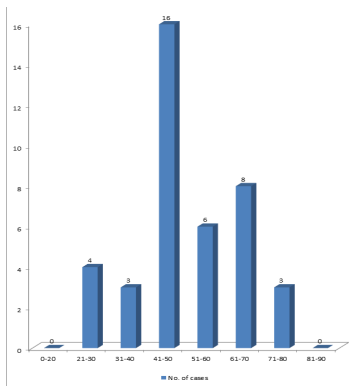
TABLE I SHOWING AGE INCIDENCE

| Sl. No. | Age group(yrs) | No. of cases | Percentage |
|---------|----------------|--------------|------------|
| 1 | 0 – 20 | 0 | 0 |
| 2 | 21 – 30 | 4 | 10 |
| 3 | 31 – 40 | 3 | 7.5 |
| 4 | 41 – 50 | 16 | 40 |
| 5 | 51 – 60 | 6 | 15 |
| 6 | 61 – 70 | 8 | 20 |
| 7 | 71 – 80 | 3 | 7.5 |
| 8 | 81 – 90 | 0 | 0 |
| | Total | 40 | 100% |

Pre Malignant lesions: In the present case series leukoplakia was found in 4 cases (10%).

Venereal disease: Only one case (2.5%) had venereal diseases (syphilis) and he was having positive V.D.R.L. test.

GRAPH 1: SHOWING AGE INCIDENCE



Treatment Modalities given to Carcinoma of Penis Patients:

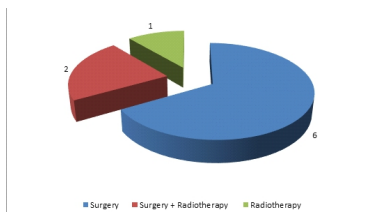
Early cases (stage I & II) were treated mainly by surgery (66%), while late cases (stage III & IV) were treated mainly by a combination of surgery and radiotherapy (45%) followed by combination of surgery and chemotherapy (33%).

TABLE 2 SHOWING TREATMENT GIVEN IN CARCINOMA OF PENIS PATIENTS

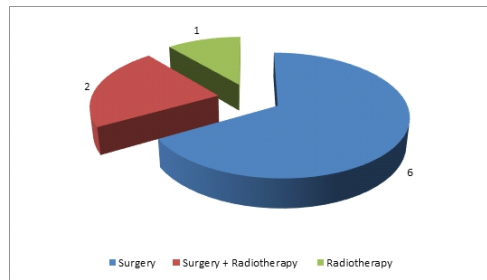
| Sl. No. | Treatment given | No. of cases | Percentage |
|---------|-----------------------------|--------------|------------|
| | Early cases (Stage I & II) | 9 | 100% |
| 1 | Surgery | 6 | 66 |
| 2 | Surgery + Radiotherapy | 2 | 22 |
| 3 | Radiotherapy | 1 | 12 |
| | Late cases (Stage III & IV) | 31 | 100% |
| 1 | Surgery | 5 | 12.5 |
| 2 | Surgery + Radiotherapy | 12 | 45 |
| 3 | Surgery + chemotherapy | 11 | 33 |
| 4 | Chemotherapy | 3 | 9.5 |

GRAPH 2: SHOWING TREATMENT GIVEN IN CARCINOMA OF PENIS PATIENTS

EARLY STAGE



LATE STAGE



Discussion

In present study, the incidence of carcinoma of penis among total male cancers at L.L.R. Hospital and J.K. Cancer Institute was found to be 2.0%.

Reported incidence rates vary from 2.8% to 10.0% of all male cancers. Panda & Nayak (1980) reported the incidence rate of 4.7% at Cuttack.⁽⁷⁾

In our study maximum number of cases fell in the age group of 41 – 50 years, accounting to 40% of total cases, followed by patients between the age group of 61 – 70 years, accounting to 20% of total cases.

The youngest patient in the present series was 26 years old whereas the oldest was 80 years of age.

The median age at diagnosis was 51.3 years.

All the patients in present series were Hindus comprising 100% and none of the patient was circumcised in early infancy or childhood.

Total absence of Muslims in the present series might be due to the high percentage of Hindus in the population of areas, people of which attend our hospitals. Total absence of incidence in Parsees, Hindu Jews (Bene Isarelis) and Christians could well.

Penile neoplasms are rare among Jews, who practice circumcision in infancy (usually within 7 days of birth) and uncommon among Muslims and others, who practice the ritual a little later in the childhood. In India Khanolker (1950) reported the incidence among Muslims as 2.2% Riveros, and Lebron (1963) as (2.5%), Pandas Nayak (1980) as (1.7%).⁽⁸⁾

Several studies have indicated that a large proportion of penile cancer patients are laborers or farmers (Reddy et al, 1977, Gursel et al, 1973)⁽⁹⁾

In our study incidence of phimosis is found to be 30%. Thomas & Small (1968)⁽¹⁰⁾ reported phimosis in 41% cases of their series. Paymaster & Gangadharan (1967)⁽¹¹⁾ observed phimosis in 26% cases. Murell & Williams (1965)⁽¹²⁾ reported the incidence of phimosis in 48.9% cases.

In our study early cases (stage I & II) were treated mainly by surgery (66%), while late cases (stage III & IV) were treated mainly by a combination of surgery and radiotherapy (45%) followed by combination of surgery and chemotherapy (33%).

CONCLUSUON

In our study incidence of carcinoma penis relative to total male cancers was 2.0%.

The disease is common among uncircumcised Hindus (100%) and very uncommon among Muslims.

Penile cancer is a disease of persons belonging to low socioeconomic status (95%) and those having poor personal hygiene (90%).

Phimosis is a predisposing factor and its incidence was 20%.

Venereal diseases did not have any significant role as only 2.5% cases were having positive V.D.R.L. test with in this series. However its exact role is open for discussion.

Age varied from 26-80 years with peak incidence in the age group of 41-50 years and median age of 51.3 years.

Surgery may be the treatment of choice but radiotherapy may also be curative to carcinoma of penis patients. Early stage (I & II) patients were treated mainly by surgery (66%) or radiotherapy while late stage (III & IV) patients were treated by the combination of surgery and radiotherapy (45%).

References:

1. Srinivas V, Khan S.A. : Penile carcinoma. Hosp. Pract. 10, 154 (1985).
2. Benard VB, Johnson CJ, Thompson TD, Roland KB, Lal SM, Cokkinides V, Tangka F, Hawkins NA, Lawson H, Weir HK. Cancer. 2008 Nov 15; 113(10 Suppl): 2910–8.
3. Broders (1928) histopathological grading Vol. 1-4; 141–149.
4. Maiche A.G. et al : Histological grading of squamous cell carcinoma of penis, a new scoring system. Br J Urol. 67(5): 522–6, May (1991).
5. Kroon BK, Horenbias S, Nieweg OE: Contemporary management of penile squamous cell carcinoma 1 : J Surg Oncol 2005 Jan 1 ; 89(1): 43–50.
6. Preis E, Jakse G. : Urologe A. (2007) Jan; 46(1): 49–53.
7. Panda, K. and Nayak, K.R. : Clinicopathological studies on cancer penis. 3 md. Med Ass. 16, 75(2): 25–8 July (1980).
8. Panda, K. and Nayak, K.R. : Clinicopathological studies on cancer penis. 3 md. Med Ass. 16, 75(2): 25–8 July (1980).
9. Gursel E.O., Geogountzos C, Uson A, C, Melicow M.M. Veenema R.J. Penile cancer – clinicopathologic study of 63 cases. Urology 1, 569 (1973).
10. Thomas, J.A. and Small C.S. : Carcinoma of the penis in Southern India. J. Urol. 100: 520-526 (1968).
11. Paymaster J C and Gangadharan P : Cancer of penis in India. 3 Urol. 97 : 110 – 113 (1967).
12. Murell D.S, Williams J.L. Radiotherapy in the treatment pf carcinoma of the penis. Br J Urol 37 : 211 – 222. (1965).