International Surgery Journal
Venkateswaran P et al. Int Surg J. 2018 Jun;5(6):2275-2278
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20182236

Original Research Article

A clinicopathological study of carcinoma penis in a rural population in Southern India

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Received: 26 March 2018
Accepted: 27 April 2018

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ABSTRACT

Background: Carcinoma penis is not an uncommon malignancy in rural population. The various epidemiological, clinical and pathological factors were analysed and compared with the global standards. To analyse the epidemiological, clinical, and pathological characteristics of carcinoma penis and their influence on the outcome of management strategies adopted.
Methods: This prospective study was conducted in government Villupuram medical college hospital Villupuram between July 2015 and July 2017 over 42 new carcinoma penis cases that were treated in the department of general surgery. Particularly about the site of origin of the lesion whether prepuce, glans, corona, or shaft.
Results: The most common presenting symptom in our study was the growth. It constitutes about 71% of the cases. Ulcer and discharge are seen in 24 and 3 percent of cases respectively. Most of the cases present with multiple symptoms. Apart from these symptoms urinary disturbance and weight loss are the most common associated symptom. Pain is absent in most of the cases unless there is a superadded infection. Nodal disease as a presenting symptom is not seen in our study. But 3 patients present recurrence as nodal disease after treatment of primary.
Conclusions: Screening of the high-risk age group will decrease in unnecessary delay in presentation of the disease. Educating about the personal hygiene will decrease the possible etiology of the disease. Improving the self-discipline by cessation of smoking and avoiding extramarital contact will significantly decrease the disease frequency.

Keywords: Chronic balanitis, Circumcision, Penis hygiene, Tobacco usage

INTRODUCTION

Each type of tissue in the penis contains several types of cells. Different types of penile cancer can develop from these cells. The differences are important because they determine the seriousness of cancer and the type of treatment needed. Almost all penile cancers start in skin cells of the penis.[1] About 95% of penile cancers develop from flat skin cells called squamous cells. Squamous cell carcinoma (also known as squalors cell cancer) can develop anywhere on the penis. Most of these cancers occur on the foreskin (in men who have not been circumcised) or on the glans.[2] These tumors tend to grow slowly. If they are found at an early stage, they can usually be cured. Verrucous carcinoma: This is an uncommon form of squamous cell cancer that can occur in the skin in many areas. A verrucous carcinoma growing on the penis is also known as Buschke-Lowenstein tumor.[3] This cancer looks a lot like a large genital wart. Verrucous carcinomas tend to grow slowly but can sometimes get very large. They can grow deep into surrounding tissue, but they rarely spread to other parts of the body. Symptoms are in decreasing order: mass lesions, pain, itching, bleeding, groin nodes, and urinary symptoms.[4] Secondary infections are very common. Inguinal lymph node status is the most

important prognostic factor, as demonstrated in a large multicentre retrospective study (35): with negative nodes, the 5-year survival was 66%; with positive nodes, it was only 27% (35).[5] In a univariate analysis performed at the IGR of 102 patients treated with brachytherapy (33), the following prognostic factors were found, given in decreasing order of importance: nodal status, tumor size, corpus involvement, age, verrucous histological type. Surgical management is effective in treating penile cancer, but surgery of the penis usually means partial or total amputation with subsequent functional disability and psychosexual morbidity.[6]

The protective effect of circumcision is likely due to the lack of accumulation of smegma that forms from desquamated epithelial cells. To date, the precise carcinogenic substance in smegma is not known. The protective effect of circumcision is diminished when performed later in life as evidenced by the higher incidence of penile carcinoma among Muslim men compared with Jewish men.[7] Poor hygiene also contributes to the development of penile carcinoma through the accumulation of smegma and other irritants. In populations that practice good hygiene but are uncircumcised, the incidence of penile carcinoma approaches that of circumcised populations.[8]

METHODS

This study is an observational study conducted on the proven cases of carcinoma penis admitted to Villupuram medical college. This is a prospective study conducted between July 2015 and July 2017. This was conducted on 42 proven cases of carcinoma penis. Cases were selected from the general population of this locality around Villupuram medical college, those who came for outpatient department. This represents a better interpretation of the result and the interventional strategies can be extrapolated to the general population.

Inclusion criteria

- All proven primary cases of carcinoma penis with histopathology.
- Patients with recurrence either at the primary site or nodal site.

Exclusion criteria

- Other benign conditions of the penis.
- Those patients not willing to take part in the study are excluded.
- Those patients who left the follow up during the period are excluded.
- Those patients who are denying the treatment option are excluded.
- Those patients who succumb to disease are excluded. After getting prior ethical committee clearance 42 cases of histopathologically proven cases are included in the study.

Those patients included are explained about the nature of the study, investigations that are done. They have also discussed the various treatment options available in Thanjavur medical college. Proper consent in patients own language is obtained before including in the study. Patients are enquired about their age, religion, socioeconomic status, occupation as a part of the general inquiry. The detailed evaluation of the history of the disease is made. Special emphasis is made on the presenting symptom, duration of the illness. Also, details about previous exposure to sexually transmitted disease and any features of premalignant conditions if present are enquired. These histories are made a detail note.

Apart from this more importance is given to obtain the personal history of the patients studied. Particular importance is given to the smoking any form such as beds, cigarettes, pawn, etc. And details about extramarital contact and their relation to the development of sexually transmitted disease and present complaint are made out. Treatment history regarding the previous circumcision is obtained.

After getting detail history patient's general examination is made and vitals are recorded. The detailed local examination is made. Particularly about the site of origin of the lesion whether prepuce, glans, corona, or shaft. The type of lesion is also studied as for whether ulcerative or exophytic. Special emphasis is made on the extent of involvement of the lesion particularly shaft and adjacent structures. The presence of clinically palpable inguinal and iliac nodes is assessed.

A detailed description of the nodes is made with regard to size, number, consistency, mobility, any ulceration, and others. The observations are made and statistical data obtained and compared with previous studies and standard reference literature. Statistical analysis was made of the various epidemiological features and the clinical and pathological correlation was made and compared with review literature and previous studies.

RESULTS

The most common presenting symptom in our study was the growth. It constitutes about 71% of the cases. Ulcer and discharge are seen in 24 and 3 percent of cases respectively. Most of the cases present with multiple symptoms.

Apart from these symptoms urinary disturbance and weight loss are the most common associated symptom. Pain is absent in most of the cases unless there is a superadded infection. Nodal disease as a presenting symptom is not seen in our study. But 3 patients present recurrence as nodal disease after treatment of primary.

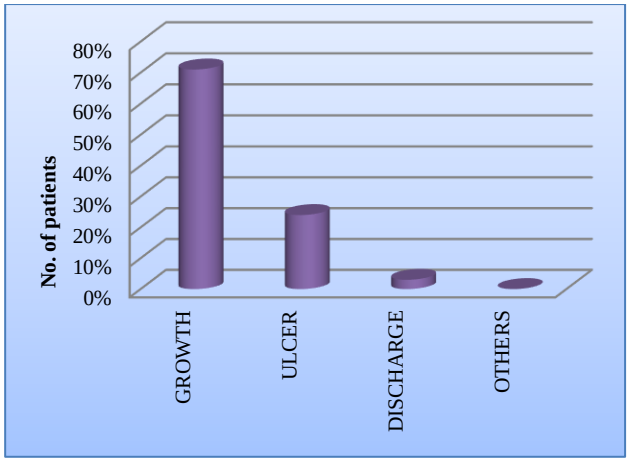

Figure 1: Symptoms among patients.

The most common premalignant lesion seen in our study was the chronic balanitis. Most patients do not exactly know the type of lesion present prior to the presenting symptoms. It may be due to poor educational qualification and lack of awareness among the general population.

Table 1: Premalignant lesion.

Premalignant lesion	No. of patients	Percentage
Chronic balanitis	8	19
None	34	81

Table 2: Site of origin.

Site of origin	No. of patients	Percentage
Prepuce	12	29
Glans	15	36
Corona	10	24
Shaft	5	12

Glans was the most common site of origin of penile carcinoma. Prepuce was the next most common site involved. These two constitutes about 65% of the tumor origin. These were followed by corona and lastly the shaft. The site of origin of the glans and prepuce may probably due to the carcinogenic effect of the smegma. The involvement of both the prepuce and glans was statistically significant.

Tobacco product was one of the most common predisposing factors for carcinoma penis. In our study also the association of tobacco product to carcinoma was high. Bendis was the most common form of tobacco intake in this part of the world. This was followed by cigarettes and pan. The association of tobacco intake and carcinoma penis was significantly higher than the general population, who do not have the habit of consumption of tobacco products. The most common type of growth seen our study was exophytic. It was observed in 31 patients out of 42. Ulcerative growth was seen in only 24% of the cases in the study group.

Table 3: Type of growth.

Type of growth	No. of patients	Percentage
Exophytic	31	76
Ulcerative	11	24

DISCUSSION

The various results obtained from our study are compared with the previous study. The levels of significance for the study results were obtained. The most common age group in our study was the sixth decade. This is similar to the previous studies conducted by Guimarães GC et al. The average age of presentation in our study was 56 years. The previous study conducted by Gursel was 58 years.[9] The study conducted by Derrick group in 1973 showed 55 as the mean age of presentation. Present study showed the distribution similar to these studies. The youngest age of presentation in our study was 25 years. 5% of the patients are less than 30 age groups in our study. A study conducted by Dean in 1935 showed similar to 7% for the below 30 years age group.[10] Growth was the most common presenting symptom in our study. It occurs in about 71% of the times. Flat ulcerative type is present in about 24% of the patients.[11] According to Gregoire L, Cubilla the ulcerative form is associated with more chance of nodal metastasis early. In our study proliferative type has more chances of nodal metastasis. The most common and only premalignant lesion seen our study was chronic banalities. The other conditions not noted may primarily be due to the ignorance or lack of awareness among the general public to seek medical attention.[12] History of previous sexually transmitted disease was present in only 21% of the patients. This is also may be due to social factors patient not seeking medical attention for these conditions before. Smoking was associated with 79% of the cases in our study. Previous studies conducted by Hellberg and Maden showed that tobacco was significantly associated with carcinoma penis occurrence.[13] Chaux A, Lezcano analyzed various forms of tobacco. They concluded that tobacco in any form is significantly associated with penile malignancy. Present study also includes all type of tobacco consumption and it was found to be statistically significant. Extramarital contact was present in only 26% of the patients with carcinoma penis. This is indirect evidence for exposure to sexually transmitted disease and for HPV infection. Graham showed there is three times increase in the incidence of carcinoma penis in patients who have multiple sexual partners. This was primarily due to increased the incidence of sexually transmitted disease according to his study. The previous circumcision was not done in any of the patients included in our study. All patient of carcinoma penis presented with the uncircumcised prepuce.[14] The most common type of growth in our study was exophytic or proliferative. Ulcerative type is seen in 26% of the patients. In our study, it was involved in 36% of the patients followed by prepuce. Both glans and prepuce constitute 65% of the patients. According to suffering and huben study in 1991

glans is involved in 48%, prepuce in 21%. And both prepuce and glans are involved in 9%, other sites such as coronal sulcus are involved in 6% and shaft in less than 2%.[15]

CONCLUSION

Screening of the high-risk age group will decrease in unnecessary delay in presentation of the disease. Educating about the personal hygiene will decrease the possible etiology of the disease. Improving the self-discipline by cessation of smoking and avoiding extramarital contact will significantly decrease the disease frequency. The incidence of the disease can be significantly reduced by proper health education and organized program about the natural course of the disease. The newer modality of treatment such as organ-preserving surgery and others have to be addressed to improve the patient's acceptability of the treatment.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Cubilla AL, Milner J, Schellhammer PF, Horenbias S, Ayala AG, Reuter VE, et al. Malignant epithelial tumors of the penis. In: Eble JN, Sauter G, Epstein JI, Sesterhenn IA, editors. Pathology and Genetics of Tumors of the Urinary System and Male Genital Organs. Lyon: IARC Press; 2004:276-90.
2. Jain SP, Agrawal PK, Jain S, Handa K, Sinha N, Dwivedi JN. The frequency of carcinoma of the penis with special reference to North India. Indian J Cancer. 1981;18:250-3.
3. Kaushal V, Sharma SC. Carcinoma of the penis. A 12-year review. Acta Oncol. 1987;26:413-7.
4. Prabhakar BR, Gupta S, Prabhakar H. Carcinoma of the penis in Punjab. J Indian Med Assoc. 1976;66:55-7.
5. Reddy CR, Reddy VC, Rao MS. Distribution of malignant tumors in Kurnool. Indian J Cancer. 1967;4:64-71.
6. Reddy CR, Raghavaiah NV, Mouli KC. Prevalence of carcinoma of the penis with special reference to India. Int Surg. 1975;60:474-6.
7. Thomas JA, Small CS. Carcinoma of the penis in Southern India. J Urol. 1968;100:520-6.
8. Cubilla AL, Velazques EF, Reuter VE, Oliva E, Mihm MC, Jr, Young RH. Warty (condylomatous) squamous cell carcinoma of the penis: A report of 11 cases and proposed classification of 'verruciform' penile tumors. Am J Surg Pathol. 2000;24:505-12.
9. Guimarães GC, Cunha IW, Soares FA, Lopes A, Torres J, Chaux A, et al. Penile squamous cell carcinoma clinicopathological features, nodal metastasis and outcome in 333 cases. J Urol. 2009;182:528-34.
10. Bezerra AL, Lopes A, Landman G, Alencar GN, Torloni H, Villa LL. Clinicopathologic features and human papillomavirus DNA prevalence of warty and squamous cell carcinoma of the penis. Am J Surg Pathol. 2001;25:673-8.
11. Cubilla AL, Reuter VE, Gregoire L, Ayala G, Ocampos S, Lancaster WD, et al. Basaloid squamous cell carcinoma: A distinctive human papillomavirus-related penile neoplasm: A report of 20 cases. Am J Surg Pathol. 1998;22:755-61.
12. Gregoire L, Cubilla AL, Reuter VE, Haas GP, Lancaster WD. Preferential association of human papillomavirus with high-grade histologic variants of penile-invasive squamous cell carcinoma. J Natl Cancer Inst. 1995;87:1705-9.
13. Chaux A, Tamboli P, Ayala A, Soares F, Rodríguez I, Barreto J, et al. Warty-basaloid carcinoma: Clinicopathological features a distinctive penile neoplasm. Report of 45 cases. Mod Pathol. 2010;23:896-904.
14. Chaux A, Lezcano C, Cubilla AL, Tamboli P, Ro J, Ayala A. Comparison of subtypes of penile squamous cell carcinoma from high and low incidence geographical regions. Int J Surg Pathol. 2010;18:268-77.
15. Johnson DE, Lo RK, Srigley J, Ayala AG. Verrucous carcinoma of the penis. J Urol. 1985;133:216-8.

Cite this article as: Venkateswaran P, Kumar PG. A clinicopathological study of carcinoma penis in a rural population in Southern India. Int Surg J 2018;5:2275-8.