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Original research article

To investigate predisposing and etiological variables for carcinoma penis

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Abstract

Background: In the India, penile cancer is a prevalent occurrence. There may be a correlation between its prevalence and societal, cultural, and economic issues. Given this, investigating factors like risk factors (such as lack of circumcision or poor genital cleanliness), lesion behaviour (how it heals), and the association between the disease and these factors would be fascinating.

Objectives: We looked into factors including prevalence, lesion progression, and the link between the ailment and genital cleanliness and circumcision. We compared and contrasted the results of various treatment methods as well. We compared our findings to those of previously published literature. Contents and Procedures: Sixty instances of epidermoid carcinoma of the penis were included in this investigation after being confirmed by biopsy.

Results: One of the most common risk factors is phimosis. At the time of the follow-up, 35 of the original 60 patients had recovered. There were seven examples where the diseases had either progressed or remained constant. To date, 16 patients have passed away. Ten patients out of a total of thirty-five have been doing OK for between one and four years. More over half (n=12) of the patients who were followed for more than 5 years showed no signs of metastasis or relapse.

Conclusion: Penile cancer is a curable malady. In order to prevent phimosis, the practise of early circumcision in male infants must become standard. The public as a whole needs to learn more about the importance of maintaining proper sanitary practises in the bedroom.

Keywords: Carcinoma penis, phimosis, circumcision, surgery

Introduction

Cancer, which has long been humanity's greatest threat, is a growing area of interest for doctors and scientists, and especially for a surgeon [1]. This is due to the fact that cancer is a potentially curable disease. The cancer rate appears to be nearly the same in most parts of the world, according to the figures. However, there can be significant variation in organ distribution; for example, penile cancer is more common among Hindus than among Muslims or Jews. Sadly, pen cancer, also known as penis carcinoma, is fairly common in the India [2]. Possible causal factors include differences in race, culture, and socioeconomic status. Given this, studying its prevalence, lesion behaviour, and association with circumcision, genital hygiene, socioeconomic level, and other factors would be fascinating. It would be very fascinating to investigate lesion's peculiar behaviour [3, 4]. The urethra and the penis, the male reproductive organ, are the points of egress for sperm and urine, respectively. The penis is a sign of manliness in addition to its role in the regulation of the body that testosterone plays. In addition to affecting physical health, it also has far-reaching effects on an individual's emotional, psychological, and social well-being. The penis can be affected by inflammatory lesions, traumatic lesions, infectious lesions, and neoplastic (benign and malignant) lesions. Most diseases have preventable causes, and those from low socioeconomic backgrounds and those who are illiterate are disproportionately affected. The mental, social, and emotional health of a person can be severely impacted by any penile lesion [5-7].

Penile Squamous Cell Carcinoma can be subdivided into many different subgroups. The most common kinds of squamous cell carcinoma are the typical subtype (48-65%), the basaloid subtype (4%-10%), the warty subtype (7%-10%), the verrucous subtype (3%-8%), the papillary subtype (5%-15%), and the mixed subtype (9%-10%) [8]. In terms of histology, each subtype presents with its own distinct hallmarks. Histopathology evaluates the tumour and places it on a spectrum based on the level of cellular differentiation to determine the tumour grade. Penile cancers are staged using the TNM approach, which was developed by the American Joint Committee on Cancer. Staging takes into account the extent to which a tumour has spread, whether or not lymph nodes are involved, and whether or not there are distant metastases [9-11].

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Materials and Methods

Sixty cases of epidermoid carcinoma of the penis, confirmed by biopsies, are included in this analysis. Study was conducted at Department of General Surgery, Kakatiya Medical College/MGM Hospital, Warangal, between the period of April 2021 to March 2022. The final protocol was used to analyse all instances, and that protocol comprised a thorough review of the patient's whole medical history and a physical examination of the affected area. Tests and scans were performed at the lab and in the radiology department as per standard procedure. Surgery, radiation therapy, and chemotherapy were all listed as potential remedies. The results were expressed as "living" or "dead." We investigate how this condition manifests, how it responds to treatment, and how circumcision and hygienic practises affect it. We also analyse patient outcomes across a range of therapy modalities. We evaluate our findings in light of previously published literature.

The prevalence, risk factors, symptoms, clinical features, and treatment of carcinoma penis are all investigated and discussed.

In the India, the incidence of penile cancer is between 0.4% and 0.6%, whereas in India, Africa, and South America, the rate is closer to 10%. The prevalence of this disease is going down across the board, with improvements shown in Finland, India, the India, and other India. Penile cancer is more common in men over the age of 80, with an abrupt increase in prevalence in the sixth decade of life. By a margin of 2%, blacks outnumber whites.

Results

Incidence is highest in younger age groups, which is a striking finding. The majority of patients exhibited penile growth. In addition to a putrid odour and purulent discharge, the patient also displayed an inability to retract the prepuce. Most patients didn't report for care until after waiting between one and six months. The inguinal lymph nodes were the target of radiation for some patients, in addition to the more common surgical excision.

Table 1: Age distribution

Age (years)	Number of patients
<20	3
21–30	9
31–40	11
41–50	13
51–60	10
61–70	9
71–80	5
Total	60

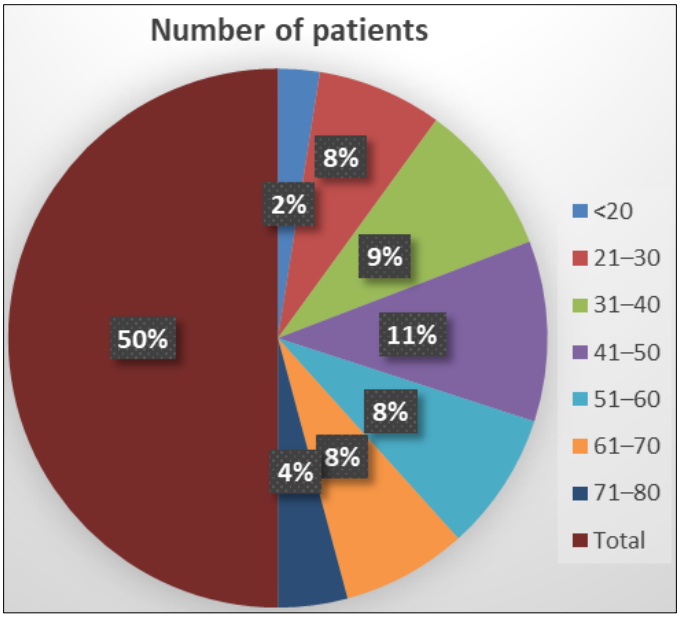

Fig 1: Age distribution

Table 2: Symptomatology

Presenting symptom	Number of patients
Ulcerated growth	30
Nodular growth	16

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Foul smelling discharge	25
Itching or burning	10
Pain	6
Inability to retract the prepuce	21
Difficulty in micturition	7
Whitish patch on the penis	2
Swelling in the inguinal region	11
Bleeding from the growth	08
Paraphimosis	02
Loss of weight and appetite	18

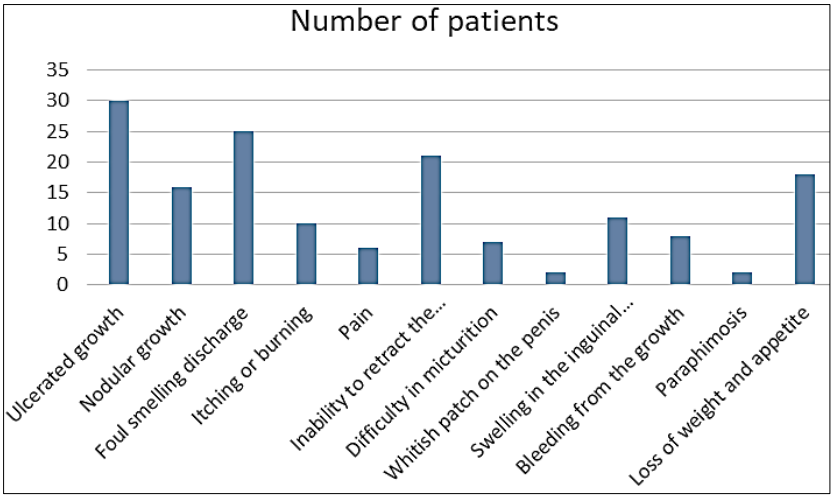

Fig 2: Symptomatology

Table 3: Period of delay in reporting

Age (years)	Number of patients
<1 months	7
1-3 months	23
4-6 months	12
7-9 months	3
10-12 months	5
1-2 months	5
2-3 months	5
Total	60

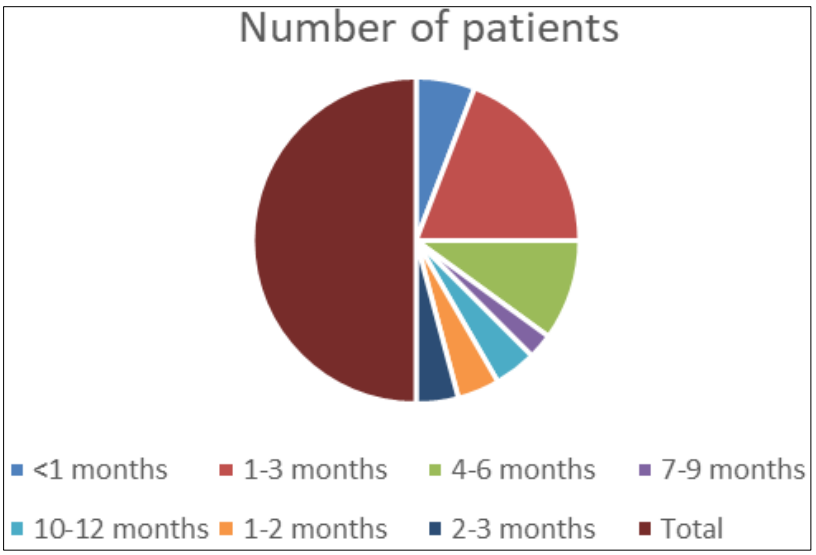

Fig 3: Period of delay in reporting

Table 4: Treatment

Treatment	Number of patients
Local excision and or circumcision	4
Partial amputation	19

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Partial amputation and block dissection	2
Partial amputation and radiotherapy	3
Radiotherapy	2
Total amputation	15
Total amputation and block dissection	3
Total amputation and radiotherapy	3
Total amputation and block dissection and radiotherapy	2
Patient refuses	7
Total	60

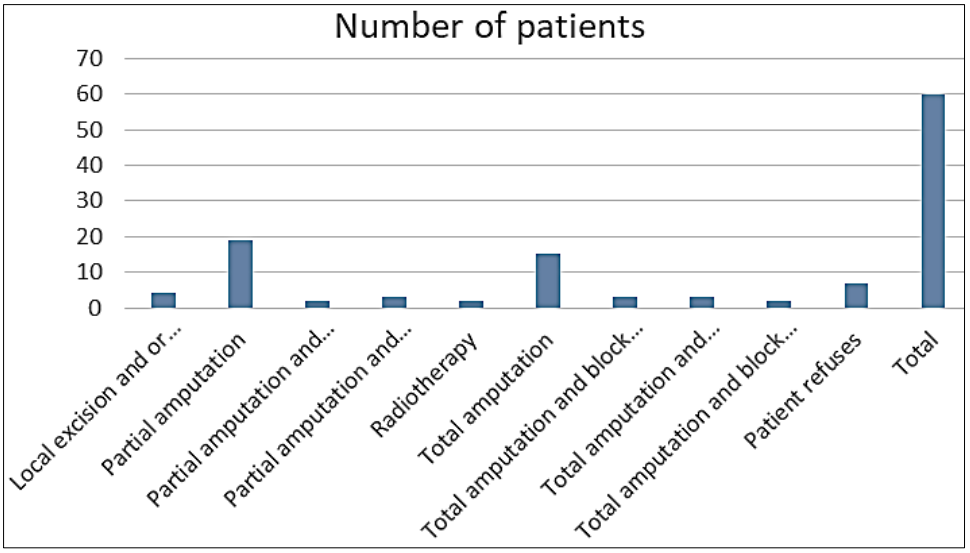

Fig 4: Treatment

At the time of the follow-up, 35 of the original 60 patients had recovered. There were seven examples where the diseases had either progressed or remained constant. Unfortunately, fourteen of the patients did not make it. A total of 35 patients were treated, and 10 of them had a successful outcome of six months to three years. Seven patients lived for 3–5 years without any metastasis or recurrence, and ten patients lived for more than 5 years.

Discussion

Although penis cancer is uncommon in the South, it is quite common in India and notably India. Incident rates have been observed to range from 0.02% to 20%. The variations in prevalence between geographic regions are notoriously puzzling. The vast disparity in the vulnerability of cells between groups, races, and individuals is the primary cause of cancer. The peak ages for occurrence are the fourth, fifth, and sixth decades. Even younger people, especially those of racial minorities, are not immune to this phenomenon. Since most male Jews and Muslims undergo circumcision at a young age, these groups rarely suffer from the illness. It has been hypothesised that this illness primarily affects the poor. This is because there aren't enough sanitary facilities for people to practise good genital hygiene. It is well known that uncircumcised men, and men with phimosis in particular, have a significantly higher risk of developing penile cancer [12, 13].

The penis and clitoris develop similarly in the embryo. Although penile cancer is more common, clitoris cancer is uncommon in the clinic. This suggests that it must have been caused by something in the environment [14]. As a result of phimosis, the prepucial coating becomes a repository for smegma, which causes a continuous mechanical and chemical irritation to the glans and the inner surface of the prepuce. Human smegma causes cervical cancer in mice. Given that insidious malignant alterations may have already taken root in the penile tissue within the first 10 days of life, circumcision is most beneficial when performed within that time frame [15-17]. Without prepuce to shield the glans, a circumcised baby's epidermis will grow thicker and denser, protecting him from the chronic irritation that can lead to cancer. In contrast, the glans may have lost its ability to generate such a resistant covering when the circumcision is performed at a later age, and although there is no longer irritation from retained smegma, the glans may remain quite sensitive to the touches of ordinary life. Whenever the incidence of penile cancer is examined, two things stand out: Both (1) a rarity among racial groups where circumcision is commonly practised and (2) a common occurrence in groups where circumcision is not practised. The terms "leukoplakia," "erythroplasia of Queyrat," "Bowen's disease," and "Paget's disease" all refer to precancerous lesions. The majority of people visit doctors because of a growth in the penis. Patients in this study reported symptoms relatively sooner than usual, however it was still too late because the organ

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can be seen and felt frequently throughout the day [18, 19]. Following are some of the possible causes of the delay in reporting: The majority of our patients are farmhands and other rural labourers. Since going to the hospital or seeing a specialist would cut into their daily earnings and add extra costs, it is difficult for them to do so [20, 21]. Due to fear of ridicule, patients often cover up the lesion in its early stages. Increased sensitivity to discomfort from smegma typically leads to the growth's initial manifestation on the glans. Different factors affect prognosis, including the kind of the lesion, how long patients wait before beginning treatment, the size of affected lymph nodes, the disease's histological grade, and the patient's overall health. When treatment is initiated at an early stage, the outcomes are more favourable. Surgery and/or radiation therapy are potential treatments. There are a number of different types of amputation surgeries, including a circumcision or local excision, a partial amputation, a total amputation, and a block dissection. Hemorrhage, edoema of the legs and scrotum, sloughing of skin flaps, wound infections, cystitis, and urethral stricture are all possible immediate postoperative problems. The results of this investigation show that wound sepsis is the most common consequence [22-25].

Conclusion

Despite the dearth of randomised studies, a rational and efficient therapy approach to PC is possible. Alternatives to amputation, such as brachytherapy and reconstructive surgery, as well as glans-sparing partial penectomy, are available for patients with localized illness. It is possible to use a curative neoadjuvant multidisciplinary paradigm rather than a palliative one for patients with metastatic illness in their LNs. However, whereas outcomes are great for locally-confined cancer, they are dismal for locoregional and metastatic disease. The effectiveness of chemoradiation and the feasibility of tailored therapies are two areas where more study is needed. Unfortunately, few clinical trials have been carried out because of the rarity of the disease and the lack of interest shown by pharmaceutical corporations. As such, it would seem that prevention and early diagnosis are of paramount importance. Particularly, neonatal circumcision, quitting smoking, and the HPV vaccine have all been linked to significantly lowering PC rates. In fact, in the India, the HPV vaccine has already been licensed to prevent genital warts and anal cancer in males aged 9 to 26. There is an immediate need for international cooperation in order to make progress.

Competing interests

All authors declare no competing interests.

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References

1. Ahmed T, Sklaroff R, Yagoda A. Sequential trials of methotrexate, cisplatin and bleomycin for penile cancer. The Journal of urology. 1984;132(3):465-468.
2. Almgård LE, Edsmyr F. Radiotherapy in treatment of patients with carcinoma of the penis. Scandinavian Journal of Urology and Nephrology. 1973;7(1):1-5.
3. Beggs JH, Spratt JS. Epidermoid carcinoma of the penis. The Journal of Urology. 1964;91(2):166-172.
4. JH B, Spratt Jr JS. Epidermoid Carcinoma of the penis. The Journal of Urology. 1964;91:166-172.
5. Beggs JH, Spratt JS. Epidermoid carcinoma of the penis. The Journal of Urology. 1964;91(2):pp.166-172.
6. JH B, Spratt Jr JS. Epidermoid Carcinoma of the penis. The Journal of Urology. 1964;91:166-172.
7. Gordon H, Lobiondo-Wood G, Malecha A. Penis cancer: the lived experience. Cancer Nursing. 2017;40(2):E30-E38.
8. Micali G, Nasca MR, Innocenzi D, Schwartz RA. Penile cancer. Journal of the American Academy of Dermatology. 2006;54(3):369-391.
9. Thomas A, Necchi A, Muneer A, Tobias-Machado M, Tran ATH, Van Rompuy AS, *et al*., Penile cancer. Nature Reviews Disease Primers. 2021;7(1):1-24.
10. Nicholson S, Hall E, Harland SJ, Chester JD, Pickering L, Barber J, *et al*. Phase II trial of docetaxel, cisplatin and 5FU chemotherapy in locally advanced and metastatic penis cancer (CRUK/09/001). British journal of cancer. 2013;109(10):2554-2559.
11. Frisch M, Friis S, Kjaer SK, Melbye M. Falling incidence of penis cancer in an uncircumcised population (Denmark 1943-90). BMJ. 1995;311(7018):1471.
12. Maddineni SB, Lau MM, Sangar VK. Identifying the needs of penile cancer sufferers: A systematic review of the quality of life, psychosexual and psychosocial literature in penile cancer. BMC urology. 2009;9(1):1-6.
13. Solsona E, Algaba F, Horenblas S, Pizzocaro G, Windahl TEAU. EAU guidelines on penile cancer. European urology. 2004;46(1):1-8.
14. Hakenberg OW, Compérat EM, Minhas S, Necchi A, Protzel C, Watkin N. EAU guidelines on

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penile cancer: 2014 update. European urology. 2015;67(1):142-150.
15. Pizzocaro G, Algaba F, Horenblas S, Solsona E, Tana S, Van Der Poel H, *et al*. EAU penile cancer guidelines 2009. European urology. 2010;57(6):1002-1012.
16. Clark PE, Spiess PE, Agarwal N, Biagioli MC, Eisenberger MA, Greenberg RE, *et al*. Penile cancer. Journal of the National Comprehensive Cancer Network. 2013;11(5):594-615.
17. Pow-Sang MR, Benavente V, Pow-Sang JE, Morante C, Meza L, Baker M, *et al*. Cancer of the penis. Cancer control. 2002;9(4):305-314.
18. Favorito LA, Nardi AC, Ronalsa M, Zequi SC, Sampaio FJ, Glina S. Epidemiologic study on penile cancer in Brazil. International braz j urol. 2008;34:587-593.
19. Hakenberg OW, Dräger DL, Erbersdobler A, Naumann CM, Jünemann KP, Protzel C. The diagnosis and treatment of penile cancer. Deutsches Ärzteblatt International. 2018;115(39):646.
20. Christodoulidou M, Sahdev V, Houssein S, Muneer A. Epidemiology of penile cancer. Current problems in cancer. 2015;39(3):126-136.
21. Ficarra V, Akduman B, Bouchot O, Palou J, Tobias-Machado M. Prognostic factors in penile cancer. Urology. 2010;76(2):S66-S73.
22. Burgers JK, Badalament RA, Drago JR. Penile cancer: clinical presentation, diagnosis, and staging. Urologic Clinics of North America. 1992;19(2):247-256.
23. Barnholtz-Sloan JS, Maldonado JL, Pow-Sang J, Guiliano AR. September. Incidence trends in primary malignant penile cancer. In Urologic Oncology: Seminars and Original Investigations. 2007;25(5):361-367. Elsevier.
24. Opjordsmoen S, Fosså SD. Quality of life in patients treated for penile cancer. A follow- up study. British journal of urology. 1994;74(5):652-657.
25. Kieffer JM, Djajadiningrat RS, van Muilekom EA, Graafland NM, Horenblas S, Aaronson NK. Quality of life for patients treated for penile cancer. The journal of urology. 2014;192(4):1105-1110.