



Rapid Progressivity in a 62-Year-Old Circumcised Man with Penile Cancer: A Case Report

Patricia Prabawati^{a,1}, Farid Setyono^{a,2}

^aRumah Sakit Bhayangkara Lumajang, Jawa Timur, Indonesia

¹pp.hartono@gmail.com

Received: 07-02-2023

Accepted: 01-03-2024

Published: 25-03-2024

ABSTRACT

Penile cancer is a rare malignancy globally, including in Indonesia, with notable morbidity and mortality rates. This case report discusses a 62-year-old male with a penile mass, emphasizing the diagnostic challenges and the importance of early intervention in penile cancer cases. The patient presented with a progressively growing penile mass, dysuria, and penile pain. Clinical examination revealed a palpable, reddish mass on the penile shaft with unclear borders, a urethral fistula, and enlarged inguinal lymph nodes. Laboratory results showed white blood cell count, haemoglobin, platelet count, glucose, blood urea nitrogen, and creatinine abnormalities. An open biopsy suggested verrucous carcinoma, later revised to penile squamous cell carcinoma with inguinal lymph node metastases. Penile cancer, particularly squamous cell carcinoma, primarily affects older, uncircumcised men. Verrucous carcinoma, though rare, is associated with poor hygiene and lack of circumcision. Notably, misdiagnoses may occur due to the limited scope of open biopsies. Penile cancer is preventable, and its significant risk factors are modifiable. Penile carcinoma, although uncommon, poses severe consequences for affected individuals. Early diagnosis and intervention are crucial for improved outcomes. This case highlights the challenges in diagnosis, emphasizing the need for comprehensive assessments and awareness of the modifiable risk factors associated with penile cancer.

Keywords: Penile Cancer, Squamous Cell Carcinoma, Verrucous Carcinoma.

Corresponden: Patricia Prabawati

Email: pp.hartono@gmail.com



INTRODUCTION

Penile cancer is a rare malignancy in Indonesia and most of the globe (Lestari & Armerinayanti, 2018). In 2020, there were 1,017 new cases of penile cancer, and it caused 0.15% of deaths among cancer patients in Indonesia (Ferlay et al., 2020). While penile carcinoma is found more often in men aged from 50 to 70 years, any men can be affected (Brouwer et al., 2023); (Borque-Fernando et al., 2023). It can occur anywhere on the penis, although most cases arise from the squamous epithelium of glans, coronal sulcus, and prepuce or foreskin (Hadidi, 2022). The glans are the most common site of penile carcinoma, accounting for up to 48% of cases, followed by the prepuce (21%), glans and prepuce (9%), coronal sulcus (6%) and uncommonly the penile shaft (<2%) (Douglawi & Masterson, 2017). Squamous cell carcinoma (SCC) is the most common histopathology and is responsible for 95% of all cases (Deo et al., 2023); (White et al., 2023). Histological diagnosis may be made by punch, excisional, or incisional biopsy (White et al., 2023).

Predisposing factors for penile cancer include phimosis, chronic inflammatory diseases such as balanoposthitis, xeroderma balanoposthitis obliterans, ultraviolet light phototherapy, multiple sexual partners, early age at first intercourse, and history of warts (Thomas et al., 2021). Risk factors also include smoking and having sex with a partner infected with human papillomavirus (HPV) types 6, 11, 16, or 18 (Douglawi & Masterson, 2017). This disease is of great importance to affected men, as significant cosmetic and functional defects often accompany its treatment (Burnett, 2016). Early metastasis to regional lymph nodes can be life-threatening (Rizwan et al., 2015). Delays in diagnosis

and initiation of treatment are not uncommon due to patient and treating physician factors (Hakenberg et al., 2018).

Case Presentation

A 62-year-old circumcised male patient presented to the emergency department with a penile mass, present since two months ago and growing progressively. He admitted to a history of dysuria and penile pain. He denied any urethral discharge. He married once and had three children, smokes cigarettes one pack/day. He has no known chronic illness. Physical examination was significant for a well-looking man. Urogenital examination revealed a palpable mass with unclear borders measured 2x1 cm, reddish colour, and odourless. The lesion is located in the shaft penile with a dense yet tender consistency. An orifice of the urethral fistula in the perineum was observed. The testicles were normal. An enlargement of the right and left inguinal lymph nodes was also found in this patient. The biochemical results were as follows: White blood cell count, 28.100/ μ l (normal range, 4.0–11.0/ μ l); haemoglobin, 7,2 g/dl (normal range, 12.8–15.5 g/dl); platelet count, 346,000/l (normal range, 150,000–450,000/l); glucose, 265 mg/dl (normal range, 70–101 mg/dl); blood urea nitrogen, 19 mg/dl (normal range, 8–20 mg/dl); creatinine, 2.31 mg/dl (normal range, 0.6–1.2 mg/dl).

The patient's clinical findings point to a diagnosis of penile cancer; an open biopsy was performed to identify this lesion by histopathological examination. Histopathological examination after an open biopsy on the patient reported the discovery of verrucous carcinoma. After 23 days, the patient underwent a partial penectomy and a histopathological examination was performed. The latter histopathology result suggested a penile squamous cell carcinoma with inguinal lymph node metastases.



Figure 1. After an open biopsy in this patient by taking a small part of the lesion



Figure 2. Histopathological specimen from open biopsy



Figure 3. After partial penectomy

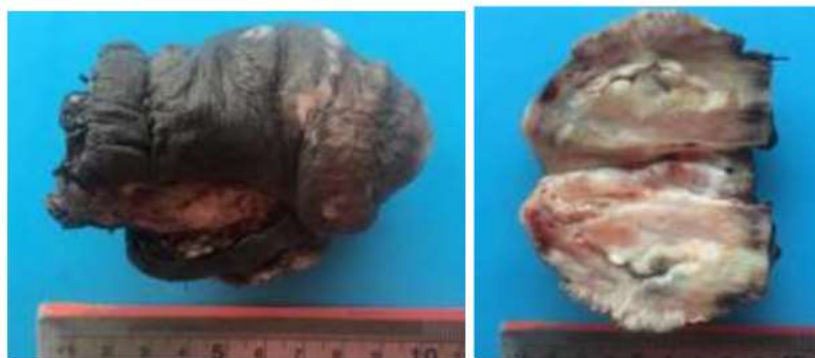


Figure 4. Histopathological specimen from partial penectomy

METHOD

This type of research is a case report. This research method describes case reports found by discussing related theories. Data was collected from patients who were diagnosed with penile carcinoma through history-taking, physical examination, and supporting examinations directly after the patient stated that he was willing to be examined through informed consent.

RESULTS AND DISCUSSION

The research results underscore the noteworthy effects of penile cancer on those afflicted, stressing the possibility of physical, psychological, and emotional anguish in addition to the mortality risk. This fits theoretically with the body of research showing that penile cancer is a serious condition, especially for some high-risk individuals. According to previous research, the physical deformity brought on by cancer can disrupt regular sexual activity, cause psychological and emotional distress, and alter typical male urination patterns (Morrison, 2015).

Based on empirical research, Squamous Cell Carcinoma (SCC) is the most common subtype of penile cancer, accounting for approximately 95% of cases. This is consistent with earlier research which also found that SCC was the most prevalent subtype (Wang et al., 2022). The study also emphasizes the existence of other, less frequent subtypes, such as verrucous carcinoma, which makes up only 5% to 16% of squamous cell carcinomas in the penis. This is consistent with the body of research showing that verrucous carcinoma is an uncommon kind of penile cancer linked to phimosis, tight prepuce, lack of circumcision, and poor hygiene.

Additionally, the study finds a correlation between high-risk HPV infections—specifically, strains 16 and 18—and penile SCC. This is in line with earlier research showing that HPV infection-

more especially, strains 16 and 18 is a major risk factor for the development of penile cancer. As actively transcribed by HPV-infected cells, viral oncogenes E6 and E7 are most likely the mechanism through which HPV causes penile cancer.

The study also recognizes technical issues that could affect the precision of diagnostic evaluations, especially in the context of procedures like partial penectomy, such as sampling errors and neglect to examine correctness. This emphasizes how crucial comprehensive assessment and quality control procedures are to the management of penile cancer cases (Ahmed et al., 2021).

In summary, the research findings advance our knowledge of penile cancer, including its subtypes, risk factors, and related difficulties. While empirical data supports the incidence of SCC and its link to HPV infection, theoretical insights highlight the seriousness of the condition. The research's underlying presumptions highlight the significance of early detection, precise diagnosis, and quality control in the successful management of penile cancer.

CONCLUSION

Penile carcinoma is an uncommon occurrence and is usually diagnosed late. It generally affects older men, so the treatment given should not be aggressive, except in cases with aggressive behaviour. This case highlights the complexity of penile cancer and emphasizes the value of thorough assessment, precise diagnosis, and prompt intervention in maximizing patient outcomes. In order to better understand the disease mechanisms, improve diagnostic methods, and improve treatment strategies for those affected by penile cancer, more research and clinical efforts are necessary.

REFERENCES

- Ahmed, M. E., Khalil, M. I., Kamel, M. H., Karnes, R. J., & Spiess, P. E. (2021). Progress on management of penile cancer in 2020. *Current Treatment Options in Oncology*, 22, 1–13. <https://doi.org/10.1007/s11864-020-00802-3>
- Borque-Fernando, Á., Gaya, J. M., Esteban-Escano, L. M., Gómez-Rivas, J., García-Baquero, R., Agreda-Castañeda, F., Gallioli, A., Verri, P., Ortiz-Vico, F. J., & Amir-Nicolau, B. F. (2023). Epidemiology, Diagnosis and Management of Penile Cancer: Results from the Spanish National Registry of Penile Cancer. *Cancers*, 15(3), 616. <https://doi.org/10.3390/cancers15030616>
- Brouwer, O. R., Albersen, M., Parnham, A., Protzel, C., Pettaway, C. A., Ayres, B., Antunes-Lopes, T., Barreto, L., Campi, R., & Crook, J. (2023). European association of urology-american society of clinical oncology collaborative guideline on penile cancer: 2023 update. *European Urology*. <https://doi.org/10.1016/j.eururo.2023.02.027>
- Burnett, A. L. (2016). Penile preserving and reconstructive surgery in the management of penile cancer. *Nature Reviews Urology*, 13(5), 249–257. <https://doi.org/10.1038/nrurol.2016.54>
- Deo, A., Borkar, M., Sagrula, D., Gadade, G., & Borse, S. (2023). Rare presentation of penile cancer: a case report. *International Surgery Journal*, 10(3), 509–511. <https://doi.org/10.18203/2349-2902.isj20230509>
- Douglawi, A., & Masterson, T. A. (2017). Updates on the epidemiology and risk factors for penile cancer. *Translational Andrology and Urology*, 6(5), 785. doi: 10.21037/tau.2017.05.19
- Ferlay, J., Ervik, M., Lam, F., Colombet, M., Mery, L., & Piñeros, M. (2020). The Global Cancer Observatory-All cancers. *International Agent for Research on Cancer-WHO*, 419, 199–200.
- Hadidi, A. T. (2022). Surgical Anatomy of the Penis and Urethra. In *Hypospadias Surgery: An Illustrated Textbook* (pp. 105–126). Springer. https://doi.org/10.1007/978-3-030-94248-9_4
- Hakenberg, O. W., Dräger, D. L., Erbersdobler, A., Naumann, C. M., Jünemann, K.-P., & Protzel, C. (2018). The diagnosis and treatment of penile cancer. *Deutsches Ärzteblatt International*, 115(39), 646. doi: 10.3238/arztebl.2018.0646
- Lestari, D. P. O., & Armerinayanti, N. W. (2018). Increasing trend of penile cancer cases in Bali compared to other regions in Indonesia. *IOP Conference Series: Materials Science and Engineering*, 434(1), 12156. DOI 10.1088/1757-899X/434/1/012156

- Morrison, J. (2015). *When psychological problems mask medical disorders: A guide for psychotherapists*. Guilford Publications.
- Rizwan, A., Bulte, C., Kalaichelvan, A., Cheng, M., Krishnamachary, B., Bhujwalla, Z. M., Jiang, L., & Glunde, K. (2015). Metastatic breast cancer cells in lymph nodes increase nodal collagen density. *Scientific Reports*, 5(1), 10002. <https://doi.org/10.1038/srep10002>
- Thomas, A., Necchi, A., Muneer, A., Tobias-Machado, M., Tran, A. T. H., Van Rompuy, A.-S., Spiess, P. E., & Albersen, M. (2021). Penile cancer. *Nature Reviews Disease Primers*, 7(1), 11. <https://doi.org/10.1038/s41572-021-00246-5>
- Wang, W., Jiao, Y., Zhang, L., Fu, C., Zhu, X., Wang, Q., & Gu, Y. (2022). Multiparametric MRI-based radiomics analysis: differentiation of subtypes of cervical cancer in the early stage. *Acta Radiologica*, 63(6), 847–856. <https://doi.org/10.1177/02841851211014188>
- White, J., Mason, R., Lawen, T., Spooner, J., Faria, K. V. M., Rahman, F., & Ramasamy, R. (2023). Therapeutic Approaches to Penile Cancer: Standards of Care and Recent Developments. *Research and Reports in Urology*, 165–174.