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Case Report

A malignant melanoma of the penile : A very rare case report and literature review

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Abstract

Background : Malignant melanoma of the penis is very rare, accounting for approximately 1.4% of all primary penile carcinomas. With a small prevalence of penile melanoma, there is lack of data about quality of the therapy. The primary treatment of melanoma of the penile is surgical, although there is a lack of consensus regarding the extent of treatment that is indicated.
Case Report : A 60-year-old Caucasian man came to Division of Urology, Department of Surgery, Dr. Kariadi General Hospital Semarang with chief complaint painless and fast growing lesions on his penile. His general condition was fine, and has a normal vital signs. On the physical examination of penile region, there were found lesions on the ventral of the glans and penile foreskin and covered with blood and pus, with bilateral inguinal lymph nodes and lung metastasis from Multi Slice Computed Tomography. We already performed partial penectomy and bilateral inguinal lymph nodes dissection with histopathological results a malignant melanoma Clark IV. The final stage of penile melanoma was pT2N1M1. We follow-up the patient until 1 year after procedure, and there wasn't any recurrence.
Conclusion : Malignant melanoma of the penis is rare. Penile melanoma is highly treatable with surgical excision in its early stages because of resistant to both chemotherapy and radiotherapy. Delay in diagnosed and surgical treatment can lead to an adverse prognosis. The anamnesis, physical examination, and imaging studies must be done appropriately to improve the survival.

Keywords : partial penectomy, malignant melanoma, inguinal lymph node

INTRODUCTION

Malignant melanoma of the penis is very rare, accounting for approximately 1.4% of all primary penile carcinomas. The mean age of patients is 52.9.[1] While it is highly treatable in its early stages, delay in seeking medical treatment has resulted in initial presentation with large tumor obscuring precursor lesions and has also contributed to the generally high stage and correspondingly poor survival rates.[2]

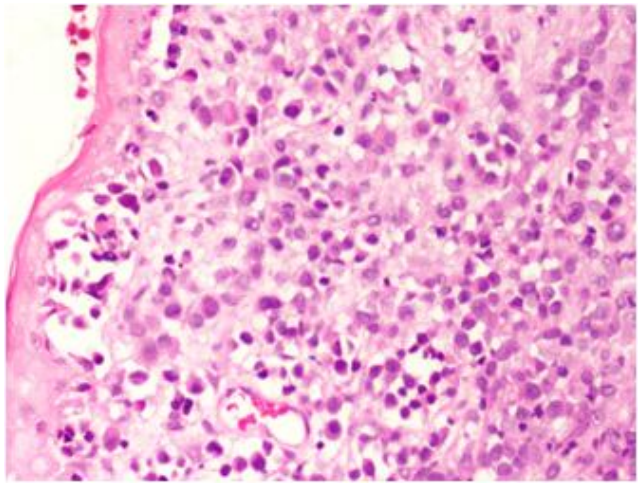
With a small prevalence of penile melanoma, there is lack of data about quality of the therapy.The primary treatment of melanoma of the penile is surgical, although there is a lack of consensus regarding the extent of treatment that is indicated.[3] This case report presents a case of melanoma of the glans and foreskin penis with bilateral inguinal lymph node metastases.

CASE PRESENTATION

A 60-year-old Caucasian man came to Division of Urology, Department of Surgery Dr. Kariadi Hospital Semarang with chief complaint lesions on his penile. The lesions presented with dark-brown to black pigmented macula on the ventral of glans and foreskin from 2 years ago. The lesions are painless and in recent two months grew rapidly and also easy to bleed.

The patient never had severe illness before, no congenital disease, no allergic history, and no history of routine medication. There was no voiding disorder, no history of trauma on penile, no history of changing sexual partners, and no history of previous surgery. He was circumcised at the age of 10 years old. He work as a farmer and had lack of socio-economic level.

Physical examination revealed a 60-year-old man with body weight 58kg, height 168cm, general appearance looks well, and there was no changes in physical activities. His *Glasgow Coma Scale* was E4M6V5 = 15, with blood pressure 120/80 mmHg, pulse rate 86x/min (regular, volume and tone were enough), respiration rate 20x/min (regular, deep of breath normal, no retraction), temperature 36,7°C, and pain score 1–2 *Visual Analogue Scale* (VAS). There was no anemic on both conjunctivas, isochoric pupil with diameter 3mm/3mm and positive reflex pupil.Chest examination revealed symmetrical chest expansion, normal breath sound without wheezing or rhonchi, normal heart sound, neither murmur nor gallop. No abnormality found in the abdominal examination. On the penile examination, there were lesions on the ventral of the glans and penile foreskin and covered with blood and pus. There is no abnormality in the scrotum and perineum. There is no enlargement on the regional lymph node. Motoric and sensory status in both lower limbs were normal, no cold acral and *Capillary Refill Time* < 2". And there wasn't any edema on the lower limb.



Laboratory findings showed Hemoglobin 14.4 gr%, Hematocrit 42.7%, Leucocyte 4.560 mmc, thrombocyte 254.000 mmc, blood glucose 168 mg/dL, Urea 24 mg/dL, Creatinine 1.0 mg/ dL, Sodium 138mmol/mL, Potassium 4,3 mmol/ L, Chloride 101 mml/ dL, PPT 10.1 (controlled : 10.8), APTT 34.0 (controlled : 32.3). No radiological examination was performed at the first meeting. The patient was hospitalized to perform biopsy and the sample sent to pathology anatomy department. Two weeks after biopsy procedure, the result of histopathological examination was a squamous cell carcinoma. And he planned to get partial penectomy. He got partial penectomy on October 31st 2017. And the amputated penile sent to pathology anatomy department to Immunohistochemistry (IHC) examination. The IHC examination showed that there was a malignant melanoma Clark IV. After that, the patient had routinely controls to urology department.

On February 2018, the patient felt there were multiple lumps on bilateral groins. He came back to urology department to check that. The doctor suggest the patient to get abdominal MSCT with contrast. The thorax and abdominal MSCTshowed there were bilateral inguinal lymph nodes, a metastatic nodule on left lung, and also multiple simple cysts on both kidneys. The doctor decided to perform bilateral inguinal lymph nodes dissection and sent the tumors to the pathology department with histopathology results malignant melanoma. The patient refused the therapy for the lung metastasis but he was willing to have routine check-up.

The final stage of penile melanoma was pT2N1M1. After a year follow-up, the patient still alive, can do daily normal activities, without any recurrence and keep regular control to urology department to check the progression of the disease.

DISCUSSION

Over recent decades, melanoma has emerged as a formidable public health challenge. Steadily increasing incidence rates, accompanied by disturbing trends in melanoma mortality, have sparked a heightened commitment to early detection and prevention.[4] Penile cancer is uncommon in the developed world1 and a rare neoplasm most common in men aged 50–70 years old.[5] While it is highly treatable in its early stages, treatment usually confers significant physical and psychological consequences.[5] The most common site for penile cancer is the glans, which accounts for 48% of diagnoses, followed by prepuce (21%), glans and prepuce (9%), coronal sulcus (6%) and uncommonly the shaft (<2%).[10] Approximately 95% of penile cancers are of squamous epithelial origin and include in situ and invasive squamous cell carcinoma (SCC). Other less common tumors of the penis include melanoma, extramammary Paget's disease (EMPD), basal cell carcinoma (BCC), and soft tissue sarcomas.[1]

Penile cancer accounts for 0.4–0.6% of malignant diagnoses in the USA and Europe, and is responsible for 0.1% of cancer deaths. Countries that suffer from economic disparity or have low rates of circumcision such as Brazil, India and African nations, have the highest reported incidence with rates as high as 6% of malignant neoplasms. Conversely, countries with robust medical systems and religious practices leading to high rates of circumcision, report the lowest incidence at 0.1 in 100,000.[5] The risk factors for the occurrences of penile carcinoma such as lack of circumcision, phimosis, poor genital hygiene, low socioeconomic status, never married/divorced, Ultraviolet–A (UVA) phototherapy, Human Papilloma Virus (HPV) infection, HIV/immune compromise, lichen sclerosis, obesity, smoking, and erythroplasia or queyrat/bowen's disease.[5] The protective factor are Circumcision (neonatal), Public health advancements (improved hygiene), HPV vaccination, Genital shielding in UVA therapy.

Malignant melanoma of the penis is rare, accounting for approximately 1.4% of all primary penile carcinomas and 0.1% to 0.2% of all extraocular melanomas. The mean age of patients is 52.9.[1] Primary tumor sites include the penis, scrotum, and urethra. Scrotal and urethral tumors are even less frequent.[6] Melanoma originates from epidermal or mucosal melanocytes. Most patients present with advanced disease. Inguinal node metastases are common (43–62% of cases at presentation).[6]

Penile melanomas typically present as a blue-black or reddish brown pigmented papule, plaque, or ulceration on the glans penis. It occurs on the prepuce less frequently. Diagnosis is made by histologic examination of biopsy specimens, which demonstrate atypical junctional cell activity with displacement of pigmented cells into the dermis.[7] Penile melanoma can be clinically staged, with stage I referring to local disease, stage II to regional lymph node involvement, and stage III to distant metastasis. The pathologic staging is the same as for all other melanomas published by the 2009 American Joint Committee on Cancer.[1]

While it is highly treatable in its early stages, delay in seeking medical treatment has resulted in initial presentation with large tumor obscuring precursor lesions and has also contributed to the generally high stage and correspondingly poor survival rates.[2]

In this case, we diagnosed penile melanoma from the IHC examination as a result from the amputated penises. There are many procedure to treatment the penile carcinoma such as laser therapy, moh's micrographic surgery, glans resurfacing, glansectomy, partial penectomy. But, they are only retrospective case series for these treatments. The results have been reported heterogeneously so that the database for assessment is of limited quality. We consider doing partial amputation because it is in accordance with the European Association of Urology (EAU) guideline (Level of Evidence 1), handling penile cancer lesion is to remove the tumor completely, while preserving as much of the penis as possible without compromising radicalism. Local recurrence has little effect on long-term survival so that organ preservation strategies can be used. However, penile preservation appears to be superior in functional and cosmetic outcomes. However, there are no randomized studies comparing organ-preserving and ablative treatment strategies, only retrospective studies with a level of evidence of 3 or less.[7] Based on EAU-guidelines, patients with partial penectomy obtained from 0-27% of patients dying of penile cancer, with local recurrence rates ranging from 4-50% of patients and an the 5-year survival rate reported ranging from 59-89%.[8]

Bechara, *et al*. (2013) explained that Local excision or partial penile amputation, with appropriate safety margin, can be effective in the control of stages T1 and T2

penile melanomas. Yet patients who had clinically proven metastases died despite surgical procedures and chemotherapy. Although it is an aggressive disease is likely to be cured when in the early stages (Level of Evidence 4).[9]

Jabiles, *et al*. (2018) mentioned that patients with penile melanoma who underwent a wide local excision procedure had a higher survival rate. Nonetheless, many reports describe the prognosis for patients with melanoma of the penis as poor, probably because of delays in diagnosis and the presence of suspicious inguinocruraladenopathy indicative of advanced disease (Level of evidence 4).[10]

In this case, we didn't do radiotherapy and chemotherapy. That was because radiotherapy in melanoma malignant was generally considered as a palliative treatment option indicated only for advanced cases or disseminated disease. The primary goal of palliative radiotherapy was to reduce signs and symptoms related to the disease and improve quality of patients' life. Palliative radiotherapy was to be introduced whenever surgery was not possible (i.e. technically unresectable tumors, poor general condition of the patient) or was deemed ineffective (i.e. multiple metastases, particularly when occurring in different organs).[11] Furthermore, melanoma is considered a chemotherapy-resistant tumor, but in fact several chemotherapeutic agents show single–agent activity at the level of 10% to 15%. Several combination chemotherapy regimens have been tested, but no survival benefit has been demonstrated.[12] As well as radiotherapy, chemotherapy was considered as palliative therapy in melanoma malignant.[13]

Four months after the partial penectomy procedure, the patient return to the urology department with chief complaint appearing lumps on both groins region. The doctor plans to do thorax and abdominal MSCT to provide information about the pelvic nodal status.[8] Based on thorax and abdominal MSCT examination, the doctor decided to do a bilateral inguinal lymph nodes dissection to remove the lumps.In accordance with EAU–guidelines, radical inguinal lymphadenectomy carries significant morbidity due to lymph drainage disorders from the legs and healing wounds are often problematic. Although, radical inguinal lymphadenectomy has a morbidity of about 25%, it can save lives and should not be misused for fear of associated morbidity.[8]

Velu, *et al*. (2013) recommended to perform radical metastasectomy for pulmonary metastases early, for patients who had solitary or a minimal number of pulmonary metastases without extra–thoracic involvement. Or also could get minimally invasive approaches to pulmonary metastasectomy which allowed for reduced morbidity and shorter hospital stays, greatly improving the experience of patients with metastatic melanoma.[14] But, the patient refused to take the procedure on the nodules in his lungs.

After 3 days of postoperative monitoring, patients were stable and allowed to discharge and must do routine controls. EAU–guideline recommends to follow–up of the amputated penis every 3 months in years 1-2 and every 1 year in years 3–5 with a regular physician or self–examination and the follow–up for the inguinal lymph nodes every 3 months in years 1–2 and every 6 months in years 3–5 with a regular physician or self-examination, and Ultrasound with FNAC optional, CT/MRI optional.[8]

The prognosis for patients with penile melanoma is clearly dependent on stage of the primary tumor and the presence or absence of inguinal metastases.[7] Van Geel, et al. (2007) showed that the overall 2 and 5–year survival rates of penile melanoma were 63% and 31%, respectively. All patients with nodal and/or distant metastases at presentation died within 2 years. Presence of ulceration, tumor depth of 3.5 mm or more, and tumor diameter greater than 15 mm had a significantly adverse effect on prognosis.[15] Jabiles, *et al*. (2017) took the longest follow–up of around 221 days and until the end of the study, the patient was still alive.[10]

CONCLUSION

Malignant melanoma of the penis is rare. Penile melanoma is highly treatable with surgical excision in its early stages because of resistant to both chemotherapy and radiotherapy. Delay in diagnosed and surgical treatment can lead to an adverse prognosis. The anamnesis, physical examination, and imaging studies must be done appropriately to improve the survival.

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