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The malignant melanoma of pedis: A rare case report of Dr. Soetomo general state hospital

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Abstract: Melanoma is a malignant tumor (cancer) that originates from skin pigment-producing cells, melanocytes. Currently, 1 in 28 men and 1 in 44 women will be diagnosed with skin melanoma during their lifetime. Mr. R, 67 years old, complained of a wound that did not heal for approximately 1 year, after which a mass appeared. On physical examination, the mass was found to be hard, red, and wet, with no visible pus or ulcers. Anatomical pathology results showed metastatic malignant melanoma in the left inguinal region. In this case, a picture of malignant melanoma was found that resembled squamous cell carcinoma and did not exhibit features of conventional malignant melanoma (ABCD). During the diagnostic process, a hard solid mass was identified, which does not typically disguise a lesion in malignant melanoma located on the plantar surface. The patient underwent definitive therapy, which included wide excision, amputation of digits 4 and 5 of the foot, and left inguinal dissection, as well as radicality of the surgical margins. It is important to diagnose patients more quickly by understanding the history of the patient's complaints, conducting a detailed physical examination, and performing appropriate supporting examinations so that treatment can be initiated promptly.

Keywords: *Melanoma maligna, Malignancy, Pedis, Skin cancer.*

1. Introduction

Melanoma is a type of cancerous tumour that develops from melanocytes, which are cells that produce skin pigment. More cases of malignant melanoma are occurring globally than any other type of cancer in Caucasians. This condition is rather uncommon in comparison to other types of skin cancer. Although melanoma accounts for only 4% of all skin cancer, this neoplasia is responsable of 80% of death by skin cancer [1]. If melanoma is identified and treated early on, it is a treatable cancer.

Anywhere on the body, skin melanoma can develop. Melanoma is a common malignant tumor in the limbs, which is highly invasive, often occurs as metastatic cancer, and has a very poor prognosis. A study shows that the overall survival rate at 2 years was only 4%. The common metastatic sites of MM are the inguinal, lungs, liver, and brain, which can also metastasize to the gastrointestinal tract [2]. In men, the most typical spots are on head, neck, and posterior of our trunk. The lower extremities, typically beneath the knees, are the most typical site in women.

Having light skin, blonde hair, blue or green eyes, and a history of prolonged exposure to UV light or sunburn, whether personal or familial gene with history of melanoma, mutation of p16-gene, more than 100 typical nevi or nevi atypical, they are all risk factors for melanoma. With the exception of lentigo maligna melanoma, which primarily affects the face, all four subtypes of melanoma such as invasive cutaneous melanoma, nodular melanoma, lentigo maligna melanoma, and lentiginous acral melanoma—can develop on the feet [3].

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The foot and ankle region is where up to 15% of skin melanomas develop. A bad outlook is linked to this. Lesions are frequently misinterpreted as haematomas or plantar warts, delaying diagnosis and leading to more serious lesions at the time of final diagnosis. Wide excision into the deep fascia with a 2-cm margin is the final treatment for melanoma. Below-knee amputation has previously been used for treatment of foot and ankle melanoma to achieve disease-free margins and adequate skin coverage [3].

A case report from Mater Dei Hospital in Malta had a similar case, that the patient had a melanoma over the skin of the right mid-calf with the metastatic to inguinal bilateral and right poplitea perform with surgery treatment and PET-CT 3 months postoperatively showed no evidence of recurrence [3].

2. Case Presentation

Mr. R, 67 years old, worked as a farmer from Tuban City. He came to Dr. Soetomo Hospital with complaints of pain in the wound on his left leg that had persisted for 1 year. He felt that the wound would not heal because his job as a farmer often caused his feet to be scratched. The pain was dull, came and went, was not influenced by activity or touch, and did not spread. The pain had become more frequent over the last 3 months and was accompanied by the appearance of a growth on the back of his left leg. Initially, the growth was the size of a grain of rice but had enlarged to the size of a chicken egg, appearing red, wet, and without pus or a blackish color on the lump (Figure 1).

From the history, it is known that the patient has only been treated with medication from a general practitioner at the community health center. There are no sick families with the same complaints. The patient also has no history of comorbidities and no history of taking routine medications. On physical examination, a mass was found in the crease of the left thigh measuring 4 x 3.5 cm, firm, springy consistency, firm boundaries, irregular edges, mobile (Figure 2).

(1) (2) (3)

Figure 1.
(1) Lateral view, (2) anterior view, (3) posterior view.

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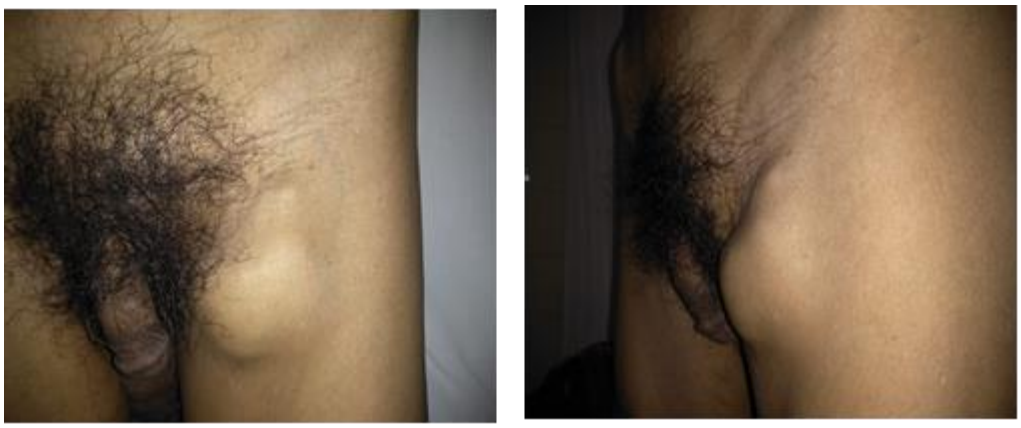
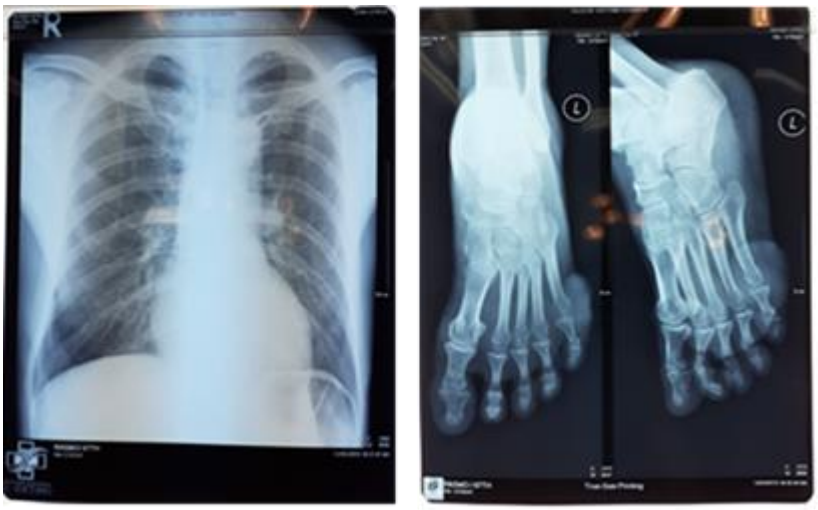


(1) (2)

Figure 2.
Enlarged KGB (1) anterior view (2) lateral view.

Then the patient underwent an FNAB examination at Koesma Tuban Hospital with a picture of Malignant Round Cell Tumor tending to Malignant Melanoma. At the Soetomo Regional Hospital, an FNAB examination was carried out on the mass in the groin, scraping of the pedis lesion showed a hypercellular appearance containing a distribution of anaplastic cells, with round-oval nuclei, severe pleomorphic, hyperchromatic, the cytoplasm of some contained greenish pigment which indicated the direction of metastatic malignant melanoma in Left inguinal lymph node.

The patient underwent a supporting examination of AP and lateral pedis photos with the results of opacity with soft tissue density in the left digital V pedis region, there were no signs of bone destruction (Figure 3). A supporting examination was carried out for staging, on a supporting examination the PA thorax photo did not show metastases in the bones that were visualized (Figure 3) and on an abdominal ultrasound support a central fatty rounded lymph node was seen, no echogenic hilum, size 1.6 x 0.9 cm which on CDUS examination showed perlymph node vascularization in the left inguinal area, no metastases were seen in the liver. On laboratory examination, no abnormalities were found.



(1) (2)

Figure 3.
(1) Thorax PA photo (2) Pedic photo looking AP and Lateral.

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The patient underwent definitive therapy with wide excision, amputation of digits 4 and 5 pedis and left inguinal dissection, as well as vries coup radicality (Figures 4, 5). The defect resulting from wide excision was closed with a full thickness skin graft (Figure 4). The donor for the skin graft was taken from the skin of the right thigh using a dermatome tool and then sutured to the defect with silk cutting 2.0.

(1) (2) (3)

Figure 4.
Post operation (1) Lateral view (2) Posterior view (3) Anterior view.

Figure 5.
Durante of inguinal dissection surgery.

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3. Discussion

The malignant alteration of melanocytes, the cells that produce melanin, is the cause of melanoma. Initially found in the neural crest, precursor melanocytes move to the skin, meninges, mucous membranes, upper oesophagus, and eyes as the foetus grows. Any of these sites may cause the melanoma's arising through the malignant transformation of melanocyte aggregates. The skin, which has hair follicles originates from melanocytes at the dermal-epidermal boundary, and this is the most prevalent site so far [4].

There are two theories about the pathophysiology of melanoma. The first is that early exposure to sunlight can cause nevi in people who are predisposed to developing nevus, and that even relatively modest levels of UV exposure can cause malignant development into melanoma. For these individuals, sporadic exposure to sunlight might be adequate. According to the second pathophysiology, people with skin that is prone to sun damage and burns readily may develop more melanomas more quickly as a result of cumulative UV exposure in vulnerable skin areas. It is remarkable that Australia has the highest incidence of melanoma in the world, and that the majority of those affected are fair-skinned Australians of Western European descent rather than locals with darker skin [5].

In 2017, about 87,110 men and women (52,170 men and 34,940 women) were diagnosed with melanoma, and 9,730 men and women will lose their lives due to invasive cutaneous melanoma. This is the cause of 1.6% of new cancer deaths and 5.2% of new cancer diagnoses. A white person's lifetime risk of melanoma was approximately 1 in 1,500 at the beginning of the 20th century. Nowadays, 1 in 44 women and 1 in 28 men will receive a skin melanoma diagnosis in their lifetime. Melanoma stands in second place of most cancer diagnosis in men aged 39 and up, and it is marginally less prevalent than leukaemia. Melanoma is the third most common cancer in young women (birth to age 49). In the more recent period from 2002 to 2006, the overall 5-year survival rate for melanoma has risen from 82% to 92% in the late of 1970s [6].

The common appearance of primary cutaneous melanoma is summarized by the abbreviation ABCD that stands for asymmetry, border irregularity, color variations, and diameter > 6 mm. This can be especially helpful in patients with a number of clinically atypical nevi. However, there are melanomas that do not have these features, which may be difficult to diagnose. Additionally, in patients who have a large number of atypical nevi, who may also have ABCD features, this mnemonic is often inadequate for early diagnosis. The sign of "ugly duckling" sign was suggested by the dermatologist. The nevi, sometimes need to be checked histologically if necessary. This can be particularly helpful in patients with a large number of clinically atypical nevi. Both approaches would help us to identify amelanotic (non-pigmented) melanoma, which often does not match the ABCD criteria. Some melanomas are asymtopmatic until they become symptomatic, and although awareness of the symptoms of bleeding, itching, pain, and ulceration are noteworthy, these usually connote deep vertical growth and are signs of a late diagnosis, not an early one [7].

Anywhere on the body, skin melanoma can develop. In men, the most typical spots are on the back and around the head and neck. The lower extremities, typically beneath the knees, are the most typical site in women. In older people, lentigo maligna melanoma (LMM) most frequently develops on sun-damaged head and neck surfaces. The most frequent sites for acral lentiginous melanoma (ALM) include subungual and other acral areas. Suspicious skin lesions require biopsy in order to be properly diagnosed and staged. The optimal biopsy technique involves taking a full-thickness sample of the whole lesion, leaving a thin (1–2 mm) margin of healthy skin [8].

Melanoma has a high 5-year relative survival rate of 98% and can be treated with surgery at the local stage. When individuals are diagnosed with advanced or metastatic melanoma, where treatment choices are restricted, this percentage significantly decreases (64% for regional melanoma lesions and 23% for distant melanoma lesions) [9].

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4. Conclusion

Melanoma arises from the malignant transformation of melanocytes, the cells responsible for producing melanin. Melanoma can arise from any of these locations through malignant transformation of melanocyte aggregates. By far the most common location is the skin containing hair follicles arising from melanocytes at the dermal-epidermal border.

In this case, the patient complained of a wound that did not heal for approximately 1 year and then a mass appeared. On physical examination, the mass was found to be hard, red and wet, with no visible pus or ulcers. Anatomical pathology results showed metastatic malignant melanoma in the left inguinal lymphnode. Then the patient underwent definitive therapy with wide excision, amputation of digits 4 and 5 pedis and left inguinal dissection, as well as vries coup radicality.

It is important to diagnose patients more quickly by knowing the history of the patient's complaints and a detailed physical examination as well as appropriate supporting examinations so that patient treatment can be carried out immediately.

Proper clinical assessment, good surgical technique based on detailed anatomical knowledge of the lower limb as well as active surveillance are essential to ensure early detection of interval and primary nodal metastasis to the limb region.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Copyright:

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