

Nasopharyngeal Carcinoma with Extensive Nodular Skin Metastasis

A Case Report

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ABSTRACT

Nasopharyngeal carcinoma (NPC) is a squamous cell malignancy originating from the nasopharyngeal epithelium. This tumor is more commonly found originating from the fossa of Rosenmüller, which is a transitional epithelial area. NPC has a high risk of regional metastases on the neck lymphnodes. However, distant metastases at initial diagnosis occur in about 10% of NPC patients. Distant metastases commonly occur in the lung, skeletal bone, and liver, but skin metastases are rare. This case was presented as a case report of a patient with skin metastases in nasopharyngeal carcinoma who had a poor prognosis and distant skin metastases on an NPC patient that was misdiagnosed as a nonmalignant skin lesion. A 46-year-old male NPC patient initially diagnosed as T2N0M0 stage II (two) and received radiotherapy came with a skin lesion during treatment. The skin lesion was then proved as distant skin metastases. Nasopharyngeal carcinoma (NPC) with skin metastases is a rare condition with a poor prognosis, so early detection and proper diagnosis are the first steps towards good therapy.

Keywords: *Nasopharyngeal carcinoma, Skin metastases, Squamous cell.*

1. INTRODUCTION

Nasopharyngeal carcinoma (NPC) is a tumor that grows from the epithelial cells that line the surface of the nasopharynx. Nasopharyngeal carcinoma originates from the lateral wall of the nasopharynx, especially the fossa of Rosenmüller. Nasopharyngeal carcinoma has the potential to expand out of the nasopharynx and has a higher risk of metastases than other head and neck tumors. The involvement of lymph node metastases is a risk indicating a high level of tumor cell proliferation so that it will tend to occur distant metastases. Distant metastases can include organs, most commonly the lungs followed by bone and liver [1,2].

Skin metastasis in nasopharyngeal carcinoma is a very rare occurrence. Although rare, any skin lesion still should be checked before being ruled out as skin

metastases. The first reported case of NPC with skin metastases was in 1947 by Markson et al [2,3]. The latest reported case is from 2010, and no report since. We will report a case of NPC with skin metastases at Dr. Sardjito Hospital, Yogyakarta.

2. CASE REPORT

A 46-year-old man came to the ENT clinic at Dr Sardjito Hospital Yogyakarta in January 2021 with complaints of nasal congestion and bloody discharge from the right nose. The patient also complained of ringing in the ear on the right side, blurred or double vision. The patient had also smoked, on average, 2 packs of cigarettes a day for the last 16 years. Nasoendoscopy examination showed bloody discharge and bilateral thickening of the nasopharyngeal mucosa.

Further laboratory investigations showed no abnormalities and other supporting examinations such as chest x-rays, ultrasonography, and bone surveys also had not reveal any metastases and abnormalities. Nasopharynx CT-Scan showed thickening of the nasopharyngeal mucosa, especially on the right side. It is following the naso-endoscopy examination.

Biopsy of the nasopharyngeal area resulted in WHO Type III Undifferentiated Carcinoma. In this type, the tumor cells showed a vesicular nucleus, oval or round in shape with clear nuclei, unclear cell boundaries, and hypervascularization (Figure 1). The patient was diagnosed with NPC stage II and planned to undergo radiotherapy.

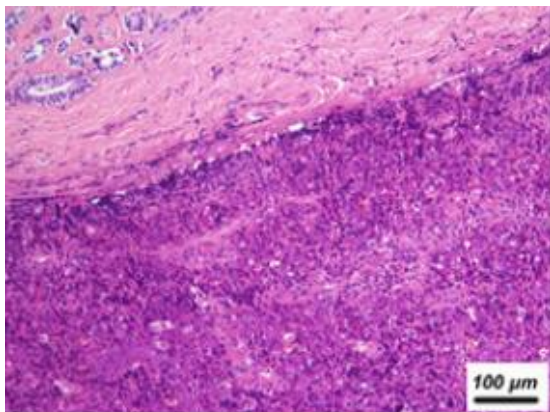


Figure 1. Biopsy of nasopharyngeal area: WHO Type III Undifferentiated Carcinoma.

During the radiotherapy session, the patient complained of redness and bullae around the left neck, and the patient also complained of small nodules on the right side of the neck. The patient was checked by a dermatologist and a skin biopsy was taken.



Figure 2. Multiple clustered bullae lesions with ulcers and erythematous plaques

Within 2 weeks, the skin lesion underwent significant change. From the physical examination, hyperkeratotic multiple skin-colored nodules, fixed,

with diameter ranging from 5 mm to 20 mm, mainly located at region II of the right neck with extensive erythematous plaques and slightly purulent ulcerated areas (Fig. 2).



Figure 3. Hyperkeratotic nodules with extensive erythematous plaques

Skin biopsy showed solid sections with thin anaplastic strands infiltrating the dermis and interfascicular spaces of the dermis.

Due to distant metastases, the patient was treated with 100 mg/m² Cisplatin (CDDP) and 100 mg/m² Epirubicin every 3 weeks. It showed significant response in the lymph nodes after two cycles of treatment.

Tumor sections showed positive staining for cytokeratin and negative staining for LCA and HMB45 indicating the epithelial origin of the tumor (Fig. 4). The skin lesion was diagnosed as cutaneous metastatic undifferentiated NPC.

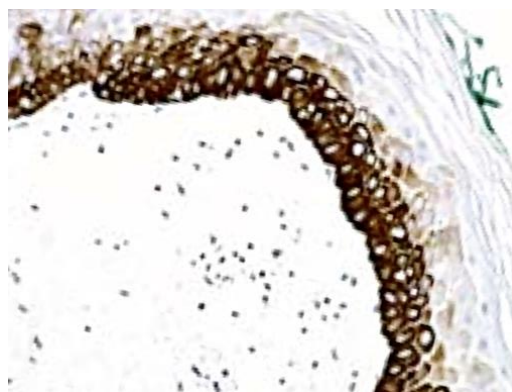


Figure 4. Tumor sections with positive cytokeratin staining

3. RESULTS AND DISCUSSION

Breast malignancy and bronchogenic carcinoma, especially in men, have the highest incidence of skin metastases, 0.7-9% of all malignancies [4]. Cases of skin metastases with NPC primary tumors are very rare. A case report reported by Luk et al [5]. reported that 4 NPC patients with skin metastases. In 2009, Bohli et al [6] reported 2 cases of NPC with skin metastases.

Distant metastases to the skin can spread through the hematogenous route, while local metastases can spread through the lymphatic system to the skin [7]. Pulmonary circulation and filtration system theoretically can cause tumor cells to implant in the skin via the azygous and vertebral venous system and Batson's plexus. Skin metastases can also occur through the pulmonary circulation itself, where tumor cells can survive through pulmonary filtration so that these cells can reach the skin [8]. The most common sites for distant metastases are the scalp, neck, chest, trunk, forearms, thighs, and penis [9]

In this case, skin metastases occurred in the neck area. According to Caloglu et al [10] of 77 cases of skin metastases, 40% were involved in the body, 28% in the head and neck, 18% in the extremities, and 14% elsewhere.

From the physical examination, multiple clustered nodules ranging in diameter from 5 mm to 20 mm, mainly region II of the right neck with extensive erythematous plaques and slightly purulent ulcerated areas during the response assessment. This clinical picture is similar to the case discussed by Bohli et al. in a case report which states that the lesions appear as nodules and can occur erysipelas and cellulitis in the spread of the lymphatic route and telangiectatic lesions in cases of spread through the hematogenous route. Patient agreed to publish his case in this journal.

4. CONCLUSION

We reported a 46-year-old male patient with NPC stage II (two) with multiple skin metastases during receiving chemotherapy and radiotherapy.

Skin metastases have a poor prognosis, but are clinically variable depending on the type of primary tumor. Skin metastases from breast carcinoma also have a better survival rate than other malignancies.

ETHICAL DECLARATION

Authors declared that the patient was consented about publishing his case on the scientific journal.

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