

CASE REPORT

PLASTIC RESTORATION OF A FACIAL DEFECT AFTER SURGICAL REMOVAL OF A LARGE MALIGNANT MELANOMA

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ABSTRACT

Introduction. Melanomas are the most aggressive skin carcinomas and a major cause of premature death from cancer. The risk factors for melanomas are UV rays, personal or family history of melanoma, large numbers of naevi, fair complexion, immunodeficiency, solar-damaged skin, etc. The scars from malignant melanoma on the face are serious challenge for the surgeons, so the successful plastic reconstruction of skin defects is very important for the normal life of the patient after surgery.

Case presentation. A 82-year-old patient with a large malignant melanoma of the left cheek was admitted to the Clinic of Maxillo-facial Surgery, University Hospital „St. George”, Medical University of Plovdiv, Bulgaria, for treatment. The preoperative examination revealed the presence of a sloping heterogonic tumour, with axial dimensions of 55/28 mm, penetrating and engaging the dermis, subcutaneous tissue, levator oris and muscular orbicularis oris. Surgery was performed, under general anaesthesia. The tumour was removed, and the defect was repaired using several skin flaps, to use the adjacent tissues. The final outcome was favourable and the surgery was functionally successful.

RÉSUMÉ

Restauration plastique d'un défaut du visage après l'extraction chirurgicale d'un gros mélanome malin

Introduction. Les mélanomes sont les carcinomes cutanés les plus agressifs et constituent une cause majeure de décès prématuré par cancer. Les facteurs de risque des mélanomes sont les rayons UV, les antécédents personnels ou familiaux de mélanome, un grand nombre de nævi, le teint clair, l'immunodéficience, la peau endommagée par le soleil, etc. Les cicatrices causées par les mélanomes malins de la face sont de vrais défis pour les chirurgiens de sorte que la reconstruction plastique réussie des défauts cutanés est très importante pour la vie normale du patient après l'opération.

Présentation du cas. Un patient âgé de 82 ans atteint d'un gros mélanome malin de la joue gauche a été admis à la Clinique de Chirurgie Maxillo-faciale de l'Hôpital Universitaire « St. George », Université médicale de Plovdiv, Bulgarie, pour traitement. L'examen préopératoire a révélé la présence d'une tumeur hétérogone inclinée, de dimensions axiales de 55/28 mm, pénétrant et engageant le derme, le tissu sous-cutané, le releveur de la bouche et le muscle orbiculaire de la

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Conclusions. This case highlights the importance of an accurate diagnosis of malignant melanoma, that is essential for an adequate management and follow-up, considering its potentially aggressive behaviour.

Keywords: naevus, skin cancer, malignant melanoma

INTRODUCTION

Melanomas are malignant tumours and a major cause of premature death from cancer¹. Usually, they appear on the skin. Malignant melanoma often occurs in exposed areas; it is thought that UV rays are involved². Other risk factors for development of melanomas are personal or family history of melanoma, large numbers of naevi and/or dysplastic naevi, giant congenital melanocytic naevi, fair complexion, a tendency to sunburn, solar-damaged skin, a history of non-melanoma skin cancer and immunodeficiency^{1,3,5}.

Malignant melanoma is mostly seen in adults and rarely in childhood, especially in individuals

bouche. La chirurgie a été réalisée, sous anesthésie générale. La tumeur a été extirpée et le défaut a été réparé à l'aide de plusieurs lambeaux cutanés afin d'utiliser les tissus adjacents. Le résultat final a été favorable et la chirurgie a réussi fonctionnellement.

Conclusions Ce cas met en évidence l'importance d'un diagnostic précis du mélanome malin, qui est essentiel pour une prise en charge et un suivi adéquat, compte tenu de son comportement potentiellement agressif.

Mots –clés: naevus, cancer de la peau, mélanome malin

with large congenital melanocytic naevi⁶. Melanoma is the most aggressive skin carcinoma and is associated with most of the skin cancer-related mortality, with an overall mortality rate more than 10%^{7,8}. Usually, most melanoma patients present with a history of a newly developing lesion on normal skin, but some types of melanomas develop very slowly, and therefore patients may not remember the prior lesion exactly⁶. An early and prompt diagnosis of melanomas is essential for an adequate management. Effective treatment requires early diagnosis, followed by surgical excision with adequately wide margins⁸.



Fig. 1. Melanoma before surgery

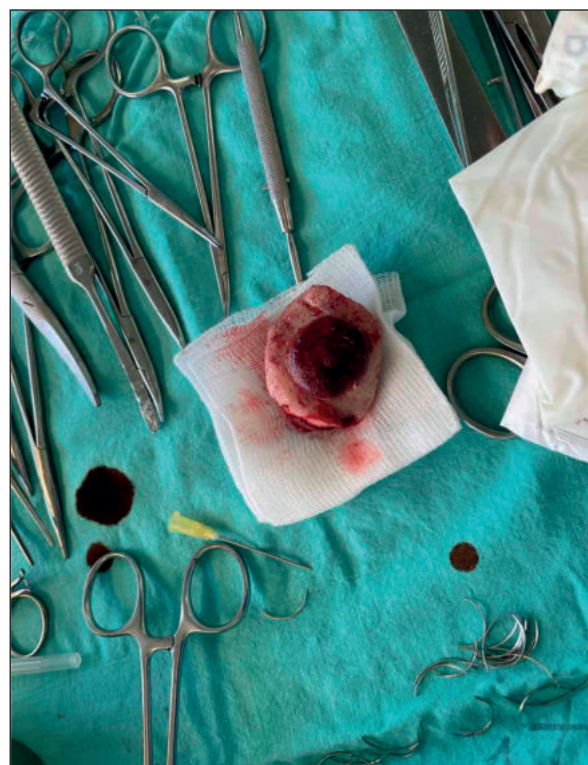


Fig. 2. Removed melanoma

CASE PRESENTATION

An 82-year-old man with a large malignant melanoma of the left cheek was admitted to the Clinic of Maxillo-facial Surgery, University Hospital „St. George”, Medical University of Plovdiv, Bulgaria, for treatment. He reported that 3 years before a skin oncologist performed surgical treatment, but now the formation has reappeared and is significantly larger (Fig. 1).

A computed tomography (CT) scan of the head and neck was done preoperatively and revealed the presence of a sloping heterogenic tumour with axial dimensions of 55/28 mm, penetrating and engaging the dermis, subcutaneous tissue, levator oris and muscular orbicularis oris. Its density is heterogeneous, as

the lesion dislocates adjacent vessels and does not involve the mandible. A very important moment from the point of view of the surgical plan was whether to perform a resection of the mandible, if affected by the tumour, but due to non-involvement no resection was required. On CT examination, no enlarged lymph nodes suspected of metastases were found, requiring the performance of the cervical lymph dissection when compiling the operative plan. Metastases develop in regional lymph nodes, as satellite or in-transit lesions, or in distant organs⁹. Widespread metastases are the main cause of death in melanoma patients. In our patient, no bone metastases were found.

The surgical intervention was performed under general anaesthesia. According to the characteristics of the case, the tumour was removed, and the



Fig. 3. Skin defect after tumour removal

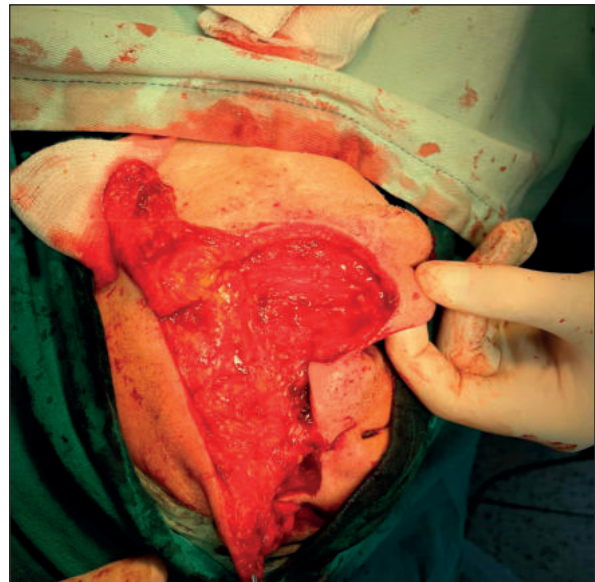


Fig. 4. Flap to cover the resulting defect



Fig. 5. Wound after surgery



Fig. 6. Aspect in the 15th day after surgery

resulting defect was repaired using several flaps of adjacent tissues (Fig. 2,3,4).

The outcome was positive, and surgery was functionally successful. The surgical wound healed very well, the cosmetic and long-term results were very good, and the patient was satisfied with the outcome of the treatment (Fig. 5,6).

DISCUSSION

There are different types of melanomas: superficial spreading melanoma is the most common type, then nodular melanomas, acral lentiginous melanoma, lentigo maligna, desmoplastic melanoma, amelanotic melanoma and ocular melanoma¹⁰. High-risk patients who are usually advised to have regular screening include patients who have had one or more primary melanomas, patients with multiple non-melanoma skin cancer and some patients with multiple benign naevi¹⁰.

The scars from malignant melanoma of the face are a serious challenge for surgeons. The successful plastic reconstruction of skin defects is very important for the normal life of the patient after surgery. An important objective of the surgical treatment is to help patients to return to a normal life and socialize without any problems during daily interactions.

In our patient, the large skin defect was successfully reconstructed, primarily by using adjacent tissues rather than loose skin grafts. The operation was successful, despite the patient's advanced age and the weak skin and subcutaneous tissues for the implementation of plastic corrections on the face. To ensure a complete removal of the primary melanoma, it is recommended to re-excise the scar following the excision of an in-situ melanoma, with a minimum margin of 5 mm, and if this is not possible, adjuvant radiotherapy can be considered^{10,11}.

The most important prognostic factor in patients with melanoma is the status of regional lymph nodes^{12,13}. In our patient, the CT examination showed no evidence of enlarged lymph nodes, so there was no need of therapeutic elective lymph node resection. This procedure is generally not recommended as adjuvant surgical treatment, because there is no evidence to suggest a survival advantage and there is significant potential surgical morbidity, including postoperative lymphoedema¹⁰. Only in case of histological confirmation of nodal metastasis the immediate complete regional lymph node dissection is recommended¹⁰.

Other important prognostic feature of melanoma is the Breslow depth, the depth of invasion of the malignant melanocytes as measured from the top of the granular layer within the epidermis to

the base of the tumour, or if the lesion is ulcerated, from the base of the ulcer to the deepest malignant melanocyte¹⁴. The management of melanomas varies depending on the stage of the lesion. The reason for a uniform remove of additional cells from the areas around the primary lesion is to remove all malignant cells and prevent local recurrence of the disease¹⁴.

CONCLUSIONS

Melanomas are malignant tumours derived from melanocytes and their most common site is the skin, but they also develop in other organs¹⁰. Ultraviolet light, trauma, mechanical stress etc. are the most well-known causes of malignant melanoma². Even though the treatment of malignant melanoma is possible with the launch of immune checkpoint inhibitors^{2,15}, drug therapy¹⁶ or other treatment methods¹⁷, surgery remains the gold standard in this case. As the malignant melanoma is the most aggressive skin cancer, and its incidence is rising, an early and accurate diagnosis of malignant melanoma is very important.

Author Contributions

R.T. was responsible for the diagnostic procedures, clinical diagnosis, treatment decisions, performed the surgery and wrote the manuscript.

Compliance with Ethics Requirements:

„The author declares no conflict of interest regarding this article”

„The author declares that all the procedures and experiments of this study respect the ethical standards in the Helsinki Declaration of 1975, as revised in 2008(5), as well as the national law. Informed consent was obtained from the patient included in the study”

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