Calcaneal Melanoma; Our Rare Case and Review of the Literature

Karaiskos Ioannis · Palla Victoria · Pateras Ioannis · Stamatakos Michael

Received: 18 August 2010 / Accepted: 17 November 2010 / Published online: 3 December 2010
© Association of Surgeons of India 2010

Abstract Melanoma is a serious disease with an increasing incidence and mortality of great extent. A case of cutaneous calcaneal melanoma is described with the whole management we followed. After injection of 99 m Tc-nanocoll for sentinel lymph node detection and its localization at the left inguinal region, its excision performed with the help of gamma probe.

Keywords Melanoma · Gamma probe · SLN

Introduction

A variety of risk factors contribute to melanoma development, including dysplastic nevi, genetic factors and sun exposure. Familial syndromes, CDKN2A deletion, CDK4 over expression and other unidentified mechanisms can function as the genetic components for melanoma pathogenesis [1]. Four types of cutaneous malignant melanoma exist: superficial spreading (70%), nodular (15–30%), lentigo malignant and acral lentiginous

melanoma. Characteristics suggestive can be summarized in the ABCDE criteria [2]:

- A asymmetry,
- B border,
- C color variegation (black, red, blue and white hues),
- D diameter larger than 6 mm,
- E evolution of skin lesions.

The diagnosis of cutaneous melanoma, clinical assessment and histopathologic confirmation are needed, so adequate biopsy is performed [3]. Imaging techniques used for this purpose are CT, MRI, PET/scan, sentinel lymph node (SLN) ultrasound and bone scintigraphy. Laboratory investigations can reveal LDH increase especially in case of distant metastases and S100B increase in correlation with clinical stage, extent of metastatic spread and disease progression [4].

Case Report

A 76-year old female hospitalized because of a skin lesion located to the left calcaneus. Its dimensions were 2.1 × 1.4 cm. The patient underwent SLN scintigraphy with 99 m Tc-nanocoll for detection and localization of any labelled lymph node. At the ipsilateral popliteal fossa did not appear any pathological node, while at the ipsilateral inguinal region, an area of high uptake of radiopharmaceutical agent appeared (Fig. 1). After excision, the inguinal dermal graft placed to the area of the calcaneus for esthetic result and healing of the wound. The patient discharged at the 11th postoperative day.

K. Ioannis · P. Ioannis
1st Department of Surgery, Medical School, University of Athens,
Laikon General Hospital,
Athens, Greece

P. Victoria · S. Michael (✉)
4th Department of Surgery, Medical School, University of Athens,
Attikon General Hospital,
Athens, Greece
e-mail: mixalislak@gmail.com

Fig. 1 99m-Tc-nanocol scintigram; site of injection, popliteal fossa, and SLN detection at the inguinal region

The histology report was positive for malignant melanoma without infiltration of the SLN, nor in H&E staining neither in HMB-45 marker (Fig. 2a, b).

Discussion

Malignant melanoma is responsible for about 90% of skin cancer related mortality. Surgical treatment with excision

biopsy remains the main treatment for melanoma. The recommended margins of excision depend on the thickness of the lesion: for melanoma *in situ*, the margins stand for 0.5 cm, for melanomas with thickness of less than 1 mm, the margins should be 1 cm and for melanomas with thickness equal or greater than 1 mm these should be 2 cm [1]. Excision should extend to and include the subcutaneous tissue down to, without the underlying muscle fascia [5]. The surgery of regional lymph nodes is really brass tacks.

Fig. 2 The histology report was positive for malignant melanoma without malignant infiltration of the SLN, nor in H&E staining neither in HMB-45 marker

SLN biopsy does not improve survival but it is a common practice in the staging procedure [6]. The identification of SLN through lymphoscintigraphy and lymphatic mapping and the subsequent positivity for melanoma, are indicative of the indispensable completion lymphadenectomy which might improve survival [5]. In addition, surgical approach should also be used for the treatment of simple distant metastases if R0 resection is planned and especially in the lungs or in the brain [7].

Radiotherapy is used at the site of the primary lesion only in case of functionally inoperable tumors and it is clearly inferior to surgery [7].

Adjuvant therapy and especially Interferon alfa-2b has been shown to improve both recurrence-free and total survival. High-dose therapy is used for stages IIIA, IIIB and IIIC [7].

Chemotherapy is indicated in case of inoperable recurring tumors, inoperable regional metastases and distant metastases (stage IV) [7]. In addition, recombinant and synthetic vaccines are now being developed for melanoma treatment [8].

References

1. Masci P, Borden EC (2002) Malignant melanoma: treatment emerging, but early detection is still a key. *Cleve Clin J Med* 69:529–545
2. Cummins DL, Cummins JM, Pantle H, Silverman MA, Leonard AL, Chanmugam A (2006) Cutaneous malignant melanoma. *Mayo Clin Proc* 81(4):500–507
3. Rigel DS, Carucci JA (2000) Malignant melanoma: prevention, early detection and treatment in the 21st century. *CA Cancer J Clin* 50(4):215–236
4. Mohr P, Eggermont AM, Hauschild A, Buzaid A (2009) Staging of cutaneous melanoma. *Ann Oncol* 20:vi14–21
5. Testori A, Rutkowski P, Marsden J, Bastholt L, Chiarion-Sileni V, Hauschild A, Eggermont AM (2009) Surgery and radiotherapy in the treatment of cutaneous melanoma. *Ann Oncol* 20:vi22–29
6. Kanzler MH (2010) Sentinel node biopsy and standard of care for melanoma: a re- evaluation of the evidence. *J Am Acad Dermatol* 62(5):880–884
7. Garbe C, Terheyden P, Keilholz U, Kolbl O, Hauschild A (2008) Treatment of melanoma. *Dtsch Arztebl Int* 105(49):845–851
8. Restifo NP, Rosenberg SA (1999) Developing recombinant and synthetic vaccines for the treatment of melanoma. *Curr Opin Oncol* 11(1):50–57