A case report of skin melanoma diagnosis by multispectral imaging

A.Derjabo1, J. Kapostinsh1, I. Diebele2, A. Lihachev2, J. Spigulis2
1Latvian Oncology Centre (Riga Eastern Clinical University Hospital), 2University of Latvia

Introduction
Malignant melanoma is the most dangerous oncological skin disease[1]. Noninvasive diagnosis is very important for melanoma early detection[2-5]. Multispectral imaging is a new technique for this purpose.

Observation
50-year old patient was consulted in Latvian Oncology centre (RECUH) with pigmented tumor on right foot. Clinical diagnosis was confirmed by dermoscopy and operation was planned. Before operation control RGB image (Fig.3.) and melanoma diagnostic parameter[2] map (Fig.4.) were performed.

On November 30, 2010 surgery was completed - tumor removing with free lever dermatoplasty. Morphological diagnosis of pigmented melanoma, Breslow 1mm, Clark II was recognized.

From January 2011 until November 2011 patient received three courses of immunomodulation with interferon (IFN) inductor and proteolytic enzymes. At the follow up on September 20, 2011 recurrence was suspected. All non-invasive diagnostic applications - dermoscopy (Fig.5.), siascopy (Fig.6.) and melanoma diagnostic parameter p map (Fig.7.) were performed.

Discussion
Malignant melanoma is a rare form of skin cancer and quite rare in young age. Highlighted case demonstrates complication of diagnostics – the discrepancy between clinical (suspicion of recurrence) and histological diagnostics (non-malignant disease - seborrheic keratosis) – as well as difficulty to choose correct treatment method. The age of patient (50 years) and suspicion of recurrence forced to search for diagnostic methods and the most reliable way of treatment (without dermatoplasty) and also the most suitable from the quality of life point of view. Traditionally, surgery is used for MM treatment. However, in this case extensive operation with second dermatoplasty can lead to rather unsatisfactory cosmetic result and decreased the quality of life. Therefore, minimal invasive surgery method was chosen to minimize complications. Surgery was performed under local anesthesia without any local complications. In addition, the postoperative period was without complications. The patient was able to work and the quality of life was not decreased. All postoperative scars were normothrophic.

Conclusions
Multispectral-image analysis might help to recognize melanomas from other pigmented skin disease and reduce the volume of operation

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References