INTRODUCTION

Melanoma of the skin is the most important tumor of the melanocyte system and it is one of the most aggressive solid tumors. Skin melanoma is characterized by the high malignant potential and the disease is potentially fatal. The incidence is in constant rise, especially in white population under 40 years all around the world.

Etiology of melanoma is not clearly defined but the risk factors are well defined. The high risk factors include: genetic predisposition (structural changes on chromosomes), skin type (white population with light skin, red or blond hair and light eyes), presence of certain pigmented changes on the skin (freckles, dysplastic nevus), overexposure to UV lights, sun burns in early childhood and type of work (2).

Early diagnostics and surgical treatment are the key to the successful treatment of disease. Early detection of melanoma is possible in large number of cases based on the clinical characteristics of melanoma (seven point check list, ABCDEF criteria) and additional diagnostic tools (computerized dermatoscopy, epiluminescent microscopy, ultrasonography)(3). One of the superior dignastical methods is excisional biopsy because diagnosis is set up based on histopathological exam.

Skin melanoma could rise from preexisting nevuses but we should keep in mind the fact that in 70%-80% of cases melanoma is developed de novo, without preexisting skin change, and in large percentage melanoma has resemblance to benign skin lesion (4,5). That is the reason why we should perform biopsy of every suspiciones skin lesion. The defect after biopsy is small and it is one of the most aggressive solid tumors. Skin melanoma is characterized by the high malignant potential and the disease is potentially fatal. The incidence is in constant rise, especially in white population under 40 years all around the world.

Based on the hystopathological type we can see that nodular type of melanoma is dominant while lentigo melanoma is rare (Figure 1).
Table 1. The most common localizations of primary skin melanoma (period 2003-2005)

<table>
<thead>
<tr>
<th>Localization of primary melanoma</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>Total number of melanoma</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>head and neck</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>10</td>
<td>9.34</td>
</tr>
<tr>
<td>shoulder</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>3.74</td>
</tr>
<tr>
<td>upper arm</td>
<td>4</td>
<td>6</td>
<td>4</td>
<td>14</td>
<td>13.08</td>
</tr>
<tr>
<td>fore arm</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>4.67</td>
</tr>
<tr>
<td>hand</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1.87</td>
</tr>
<tr>
<td>chest</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>7</td>
<td>6.54</td>
</tr>
<tr>
<td>back</td>
<td>8</td>
<td>12</td>
<td>9</td>
<td>29</td>
<td>27.10</td>
</tr>
<tr>
<td>abdomen</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>3.74</td>
</tr>
<tr>
<td>upper arm</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>11</td>
<td>10.28</td>
</tr>
<tr>
<td>lower leg</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>12</td>
<td>11.21</td>
</tr>
<tr>
<td>foot</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>9</td>
<td>8.41</td>
</tr>
<tr>
<td>total</td>
<td>28</td>
<td>38</td>
<td>41</td>
<td>107</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Figure 1. Histopathological types of melanoma

Figure 2. Melanoma stages according to Clark’s classification

Figure 3. Thickness of melanoma according to Breslow

DISCUSSION

Surgical treatment of skin melanoma is performed in all stages of the disease. It includes excision of primary melanoma, regional lymph node dissection and treatment of intransit and distant metastases. An adequate surgical treatment of primary melanoma and regional metastases is exclusive domain of plastic and reconstructive surgery and oncologic surgery (5,7,8). Treatment of distant metastases is performed by the surgeons trained in the field of oncologic surgery. Design of the excision is dictated by the nature of the skin lesion and by the rules of plastic surgery which provides optimal functional, esthetic, psychosocial and economic results in the initial stage of treatment. Knowing all capabilities of plastic and reconstructive surgery frees the surgeon to be as radical as necessary (14).

Contemporary trend in the surgical treatment of primary skin melanoma suggests that skin autotransplant should not be used because it prolongs recovery period without providing satisfactory functional and esthetic results. Keeping in mind that the type of reconstructive procedure does not affect metastatic potential of melanoma and survival of the patients (if the resection margins are tumor free), we suggest reconstruction by using skin flaps. Postexcisional defects on the abdomen, chest and back can be directly sutured or closed by perioperative adjacent skin expansion (15,16).

In the past skin autotransplant was always used in reconstruction of the defect. In our series we used it only in certain number of patients with defects on abdomen, chest and back, dorsal side of the foot, calf, hair bearing skin of the head and to cover up secondary defects created in reconstruction of large defects of the hair bearing skin of the head. In the reconstruction of defects different types of local skin flaps could be used – transpositional, rotational and slide flaps, providing faster recovery (17). In certain cases microvascular flaps could be used (13).

In our series we used skin flaps in 24% of patients. The size and extensity of the defect on the hair bearing skin of the head forced us to use skin autotrans-
plant and in the cases when the bone was exposed we covered up the defect first by skin flap and then secondary defect by the skin autotransplant.

Postexcisional defects on the face, especially on the chick, could be closed by direct suture. In the cases when that is not possible we tried to design a local skin flap which had similar color and texture. We used most commonly rotational, transpositional (Limberg flap) and sliding flap (18).

Postexcisional defect on the nose could be reconstructed by using skin autotransplant with it’s full thickness an if the cartilage is exposed we could use some of the regional skin flaps (bilobar Banner, nasolabial, Reinger, frontal, etc). In our series we used both types of reconstruction (19,20).

In the melanoma localized on the skin of the ear it is considered that ear cartilage represents a barrier and postexcisional defect could be reconstructed with skin autotransplant or the skin flap that is used when reconstructing partials defect of the ear lobe (21).

Narayan proposes that the safer method is the excision of the melanoma or skin autotransplant or the skin flap that is used when reconstructing partials defect of the ear lobe. In our series we used both types of reconstruction (19,20).

Melanomas localized on the eye lids and periorbital region are very challenging for plastic surgeons due to its complex anatomy and difficult reconstruction (22). Spinelli and associates divided periorbital region into five zones and suggested a reconstruction method for each region (23).

Postexcisional defect on the upper eye lid in one patient we reconstructed using transpositional flap and in second patient with defect in the region of medial canthus we reconstructed using globular flap.

Melanoma localized on the hand and foot could be reconstructed by using skin autotransplant or by skin flap, specially when the lesion is localized on the plantar side of the foot (24,25).

Subungual melanoma requires amputation of the phalange. In the cases when the melanoma is localized on the skin of phalange total amputation is indicated (26). In our series we used all of the reconstruction methods described and in four patients we performed amputation of the finger.

CONCLUSION

Postexcisional defect is determined by the histopathological type and the thickness of melanoma. The guidelines and recommendation on excision margins should be followed strictly.

Contemporary trends in the surgery of melanoma consider creating minimal postexcisional defects which could be reconstructed regardless of localization using numerous plastic-reconstructive procedures with optimal functional and aesthetic results. Faster postoperative recovery reduces the costs of the procedure.

We showed in our analysis of surgically treated patients with primary melanoma that plastic surgery has numerous reconstructive capabilities which makes it invaluable in surgical treatment of skin melanoma.

REFERENCES