## Case 1.

A 42- year-old woman presented in March 2005 with melanoma (T4(?)N0M0; Breslow thickness, 4-5 mm) on the left cheek (Fig. 1a). Primary size was 25\*22 mm. Melanoma was confirmed cytologically. No lymph node or visceral metastases were found after staging procedures (x-ray of the thorax and sonography of the abdomen and the regional lymph nodes) were performed.



Fig. 1. Patient 1 with melanoma of left cheek. Primary size was 25\*22 mm.

- [a]. In March 2005, treatment with polyantigenic xenogenic antitumor vaccine (PAXAV) was started. In July 2005, clinical effect was stable disease.
- **[b].** In July 2005, local active immunotherapy by means of IL-2 was started. In **November 2005**, clinical effect was **minimal response**.
- **[c].** In October 2006, local pathogenetic treatment was started. In January 2007, after 2.5 months of local pathogenetic treatment the clinical effect was **complete response**. Skin of left cheek is clean.
- [d]. In December 2009 and in June 2010, skin of left cheek is clean.

In March 2005, treatment with polyantigenic xenogenic antitumor vaccine (PAXAV) was started (Fig. 1a). In July 2005, clinical effect was stable disease.

In July 2005, local active immunotherapy by means of IL-2 was started. In November 2005, clinical effect was minimal response (Fig. 1b).

In November 2005, treatment with polyantigenic xenogenic antitumor vaccine (PAXAV) plus BCG was started. In October 2006, clinical effect was minimal response (Fig. 1b).

In October 2006, local pathogenetic treatment was started. In January 2007, after 2.5 months of local pathogenetic treatment the clinical effect was complete response (Fig. 1c).

In December 2009 and in June 2010, skin of left cheek is clean (Fig. 1d).

No lymph node or visceral metastases were found after staging procedures (x-ray of the thorax and sonography of the abdomen and the regional lymph nodes) were performed.

Treatment of **primary melanoma** was without surgery, chemotherapy and X-ray therapy.

## Case 2.

A 63-year-old woman presented in August 2001 with a malignant melanoma (T3N0M0; Clark level IV; Breslow thickness, 5-6 mm) on her right shin of leg (posterior region of leg), which was initially treated with wide excision.

In June 2003, several skin lesions of metastatic melanoma were noted on the right shin of leg (posterior region of leg). Multiple new skin-colored, brownish red, and dark blue smooth-surfaced and eroded papules and nodules of metastatic melanoma appeared on the whole right lower leg in June 2003 (Fig. 2a).

A large ulcerated nodule (1.8 cm in diameter) was noted on the right posterior crural region (Fig. 2a). Metastatic melanoma was confirmed cytologically.

No lymph node or visceral metastases were found after staging procedures (x-ray of the thorax and sonography of the abdomen and the regional lymph nodes) were performed.

In June 2003, treatment with polyantigenic xenogenic antitumor vaccine (PAXAV) was started. In October 2003, clinical effect was stable disease.

In October 2003, local active immunotherapy by means of IL-2 was started and was finished in February 2004. Clinical effect was minimal response (Fig. 2b).

In February 2004, local partial pathogenetic treatment and PAXAV plus IL-2 were started.

In January 2006, clinical effect was partial response (Fig. 2c).

No lymph node or visceral metastases were found after staging procedures (x-ray of the thorax and sonography of the abdomen and the regional lymph nodes) were performed.

Treatment of **metastatic melanoma** was without surgery, chemotherapy and X-ray therapy.



**Fig. 2. Patient 2** with metastatic melanoma of right shin of leg (posterior region of leg).

[a] Right shin of leg (posterior region of leg) showing multiple papules and an ulcerated nodule of cutaneous melanoma metastases (black circumferences).



[b] Right shin of leg (posterior region of leg) with multiple cutaneous melanoma metastases (dark blue smooth-surfaced papules and nodules) after 5 months of treatment with local active immunotherapy by means of IL-2, multiple cutaneous melanoma metastases are minimally decreased. Clinical effect was minimal response.



[c] Right shin of leg (posterior region of leg) with multiple cutaneous melanoma metastases (skin-colored and brownish red smooth-surfaced papules) after local partial pathogenetic treatment. Clinical effect was partial response.

Case 3.

A 42-year-old woman presented in May 2001 with melanoma (T2N0M0; Clark level III) on her back, which was initially treated with wide excision (Fig. 3a).

In July 2002, local melanoma metastases were noted in lymph nodes of a left axillaries region (N3), which was treated with wide excision (Fig. 3b). Metastatic melanoma was confirmed histopathologically. It was a first relapse.

In March 2003, regional nodal metastases of melanoma were noted in the postoperative scar of a left axillaries region (N3), which was treated with wide excision (Fig. 3c). Metastatic melanoma was confirmed histopathologically. It was a second relapse.

In May 2003, treatment with polyantigenic xenogenic antitumor vaccine (PAXAV) was started. In October 2003, clinical effect was progression of disease. Multiple (innumerable) metastases (6-36 mm) of melanoma were noted in lymph nodes of a left axillaries region and solitary melanoma metastasis (40\*17 mm) was noted in the postoperative scar (N3). It was a third relapse.

In October 2003, treatment with mixed vaccine (PAXAV plus BCG) and local active immunotherapy by means of IL-2 were started. In January 2004, clinical effect was minimal response.

In March 2004, complete regression of solitary melanoma metastasis was noted in the postoperative scar after local mixed vaccine (PAXAV plus BCG) therapy (Fig. 3c).



Fig. 3. Patient 3 with metastatic melanoma of back.

[a] In May 2001, postoperative scar on back.



**[b] In July 2002,** postoperative scar of a left axillaries region.

[c] In April 2003, postoperative scar of a left axillaries region.

In March 2004, complete regression of solitary melanoma metastasis From March 2004 to April 2005, partial regression of multiple metastases of melanoma (decrease of sizes and quantity of metastases) were noted in lymph nodes of a left axillaries region.

From March 2005 to January 2006, a decrease of metastases quantity of multiple metastases of melanoma (7 lymph nodes) was noted in lymph nodes of a left axillaries region. Clinical effect was minimal response.

**In April 2006,** multiple distant hypoechogenic lymph nodes (neck, region of pancreas, inguinal lymph node - multiple melanoma metastases M1a - ?) were noted during usual mixed vaccine (PAXAV plus BCG) and interferon alpha therapy. It was a **fourth relapse**.

In April 2006, treatment with mixed vaccine (PAXAV plus BCG) was stopped and another therapy was started. In October 2006, clinical effect was complete (inguinal lymph node) and partial (neck, region of pancreas) regression of multiple melanoma metastases M1a (?).

In October 2006, pathogenetic treatment was started. In April 2007, clinical effect was complete regression of hypoechogenic lymph nodes in region of pancreas and neck.

From April 2007 to August 2010, complete regression of multiple melanoma metastases (3-6 mm) was noted in lymph nodes of a left axillaries region.

Unfortunately, this patient has only a very slow regression, but she lives.

Treatment of **metastatic melanoma** was without surgery, chemotherapy and X-ray therapy.

## **References:**

- Balch C.M., Buzaid A.C., Soong S.J., Atkins M.B., Cascinelli N., Coit D.G., Fleming I.D., Gershenwald J.E., Houghton A.Jr., Kirkwood J.M., McMasters K.M., Mihm M.F., Morton D.L., Reintgen D.S., Ross M.I., Sober A., Thompson J.A., Thompson J.F. Final Version of the American Joint Committee on Cancer Staging System for Cutaneous Melanoma. J. Clin. Oncol; 2001; 19(16): 3636-3648.
- 2. Balch C.M., Soong S.J., Smith T., Ross M.I., Urist M.M., Karakousis C.P., Temple W.J., Mihm M.C., Barnhill R.L., Jewell W.R., Wanebo H.J., Desmond R. Long-Term Results of a Prospective Surgical Trial Comparing 2 cm vs. 4 cm Excision Margins for 740 Patients With 1-4 mm Melanomas. An. Surg. Oncol; 2001; 8(2): 101-108.
- 3. Balch C.M., Soong S.J., Ross M.I., Urist M.M., Karakousis C.P., Temple W.J., Mihm M.C., Barnhill R.L., Jewell W.R., Wanebo H.J., Harrison R. Long-Term Results of a Multi-Institutional Randomized Trial Comparing Prognostic Factors and Surgical Results for Intermediate Thickness Melanomas (1.0 to 4.0 mm). An. Surg. Oncol; 2000; 7(2): 87-97.
- 4. Balch C.M., Soong S.J., Atkins M.B., Buzaid A.C., Cascinelli N., Coit D.G., Fleming I.D., Gershenwald J.E., Houghton A. Jr., Kirkwood J.M., McMasters K.M., Mihm M.F., Morton D.L., Reintgen D.S., Ross M.I., Sober A., Thompson J.A., Thompson J.F. An Evidence-based Staging System for Cutaneous Melanoma. CA Cancer J Clin; 2004; 54(3):131-149.
- Balch C.M., Gershenwald J.E., Soong S.J., Thompson J.F., Atkins M.B., Byrd D.R., Buzaid A.C., Cochran A.J., Coit D.G., Ding S., Eggermont A.M., Flaherty K.T., Gimotty P.A., Kirkwood J.M., McMasters K.M., Mihm M.C. Jr, Morton D.L., Ross M.I., Sober A.J., Sondak V.K. Final version of 2009 AJCC melanoma staging and classification. J Clin Oncol. 2009; 27(36): 6199-206.
- Balch C.M., Gershenwald J.E., Soong S.J., Thompson J.F., Ding S., Byrd D.R., Cascinelli N., Cochran A.J., Coit D.G., Eggermont A.M., Johnson T., Kirkwood J.M., Leong S.P., McMasters K.M., Mihm M.C.Jr., Morton D.L., Ross M.I., Sondak V.K. Multivariate Analysis of Prognostic Factors Among 2,313 Patients With Stage III Melanoma: Comparison of Nodal Micrometastases Versus Macrometastases. J Clin Oncol; 2010; 28: 1-9.
- Seledtsov V.I., Felde M.A., Samarin D.M., Seledtsova G.V., Shishkov A.A., Niza N.A., Turumin J.L., Kashchenko E.A., Poveshchenko O.V., Kozlov V.A. Immunological and clinical aspects of xenovaccinotherapy application for the treatment of melanoma. Russian Oncological Journal. 2006; 4: 23-28. [Article in Russian]
- 8. Selection V.I., Shishkov A.A., Surovtseva M.A., Samarin D.M., Selectiona G.V., Niza N.A., Selection D.V. Xenovaccinotherapy for melanoma. Eur J Dermatol. 2006; 16(6): 655-61.