A Case of Lentigo Maligna Melanoma

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Lentigo maligna melanoma(LMM) is the least common type of melanoma. LMM is almost exclusively located on sun-exposed skin of the head and neck. We describe a case of lentigo maligna melanoma evolved from lentigo maligna in 82-year-old man. Five years ago, the patient developed a brownish pigmented lesion on the left cheek. The lesion progressed slowly, and several months ago, a black pigmented patch was developed in the periphery of the brownish pigmented patch. Histopathologic examination of the lesions revealed findings consistent with lentigo maligna and lentigo maligna melanoma. (Ann Dermatol 13(4) 247~249, 2001).

Key Words : Lentigo maligna, Lentigo maligna melanoma

Lentigo maligna(LM) is a pigmented lesion that occurs on the sun-exposed skin, particularly the head and neck areas, of an older patient[1]. It occurs almost exclusively in Caucasian persons, rarely affecting Asians. The lesion increases in size and at some point, often many years after its onset, may become lentigo maligna melanoma(LMM)[1]. In Korea, there were 5 reported cases of lentigo maligna melanoma[2-6].

We report a case of lentigo maligna melanoma occuring on the face.

CASE REPORT

A 82-year-old male patient visited our clinic with a pigmented lesion on the cheek. Five years ago, the patient developed a brownish pigmented lesion on the left cheek. The lesion progressed slowly, and several months ago, a black pigmented patch was developed in the periphery of the brownish pigmented patch. A physical examination of the left cheek revealed a 1×2 cm sized black pigmented patch within relatively well marginated irregular bordered 2.5×3.5 cm sized brownish patch (Fig. 1). Histopathologically, brownish patch showed epidermal atrophy, proliferation of atypical melanocyte along the basal layer, and solar elastosis(Fig. 2). Black pigmented patch showed invasion of melanocytes into the dermis(Fig. 3). Immunohistochemical stain revealed atypical melanocytes were positive in S-100 protein and HMB-45. The patient refused the surgical treatment because of his old age.

DISCUSSION

In 1890, Hutchinson[7] described a superficial tumor of melanocytic cells as a senile freckle. In 1894, he named this lesion lentigo melanosis[8]. Currently, most authors refer to this lesion as lentigo maligna when it is confined to the epidermis and lentigo maligna melanoma when it becomes invasive[1]. The lesion may grow slowly for long periods with a latency of approximately 5 to 15 years in their precursor form before invasion occurs. The lifetime risk of LMM developing from LM has been estimated to be 4.7% at 45 years of age and 2.2% for 65 years of age[9]. The LM subtype represents 4% to 15% of all malignant melanomas and 10% to 26% of

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head and neck melanomas[1]. LM occurs almost exclusively in Caucasian persons, rarely affecting Asians[1].

LM most commonly affects the sun-exposed skin of the head and neck, with a predilection for the cheek. Less common sites include the arm, leg, and trunk. Long-term cumulative UV radiation is the most widely accepted risk factor for the development of LM[1]. In addition to UV radiation, x-radiation, estrogen and progesterone, and nonpermanent hair dyes have all been proposed risk factors[1]. Patients with LM are generally older than 40 years of age with a mean age of 65 years[10]. LM patients tend to be older than those with superficial spreading malignant melanoma or nodular melanoma[11]. Although uncommon, amelanotic LM can occur[12]. The main clinical differential diagnosis includes solar lentigo, pigmented actinic keratosis, and seborrheic keratosis[1].

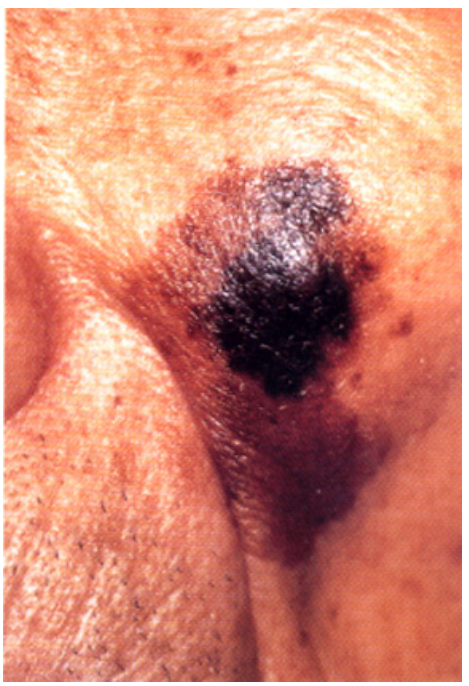

Fig. 1. A 1×2 cm sized black pigmented patch within relatively well marginated irregular bordered 2.5×3.5 cm sized brownish patch on the left cheek.

The diagnosis of LM was made if the following criteria were met. 1) A proliferation of atypical melanocytes along the basal layer arranged in solitary units and small nests; 2) solar elastosis; 3) periadnexal extension of atypical melanocytes; 4) epidermal atrophy and effacement of the rete ridges; 5) a dermal infiltrate composed of lymphocytes and melanophages; and 6) multinucleated melanocytes (starburst giant cells)[13]. Not all of the criteria were required for the diagnosis in every case. The lesion was diagnosed as LMM if there was invasion into the dermis[13]. In difficult cases, LM may be distinguished histologically from pigmented actinic keratosis with the use of the monoclonal antibody HMB-45[14]. In most series, HMB-45 is more specific and S-100 protein is more sensitive for diagnosis of melanoma[15,16]. In this case, we observed epidermal atrophy, proliferation of atypical melanocyte along the basal layer, solar elastosis, and invasion of melanocytes into dermis. Also, we observed positive findings of atypical melanocytes in S-100 protein and HMB-45.

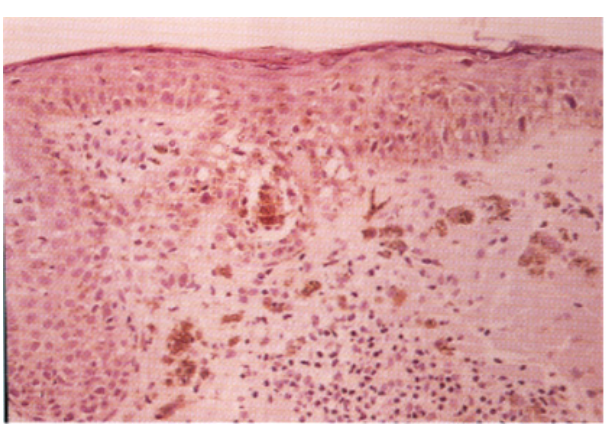

Fig. 2. The biopsy specimen from brownish patch shows epidermal atrophy, proliferation of atypical melanocyte along the basal layer and solar elastosis(H&E, ×100).

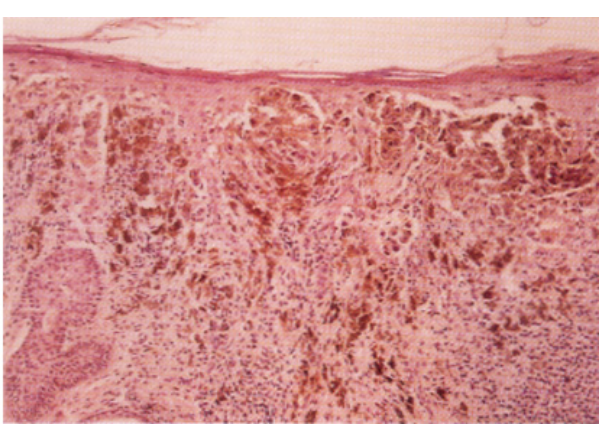

Fig. 3. The biopsy specimen from black pigmented patch shows invasion of melanocytes into the dermis(H&E, ×100).

Although wide local excision has long been considered the standard treatment for these lesions, several authors have proposed alternative therapies that are largely destructive techniques, including radiotherapy, curettage-electrodesiccation, and cryosurgery[17].

We report a case of LMM which developed 5 years after the appearance of LM and showing typical histopathologic findings.

REFERENCES

1. Cohen LM: Lentigo maligna and lentigo maligna melanoma. J Am Acad Dermatol 33:923-936, 1995.
2. Lee JO, Choi HM, Myung KB, Kook HI: A case of lentigo maligna melanoma occurring on the sole. Kor J Dermatol 25(suppl 1):54, 1987.
3. Joen HP, Youn JI, Lee YS, Joh GY: A case of lentigo maligna melanoma. Kor J Dermatol 27:99-103, 1989.
4. Kim SD, Suh DH, Cho KH: A case of lentigo maligna melanoma. Clinical Dermatology(Seoul) 5: 26-27, 1999.
5. Lee DK, Chon HJ, Kim DJ, Son SJ: A case of lentigo maligna melanoma. Kor J Dermatol 38:522-525, 2000.
6. Won JY, Joen YM, Song ES: A case of lentigo maligna melanoma. Kor J Dermatol 38:1362-1365, 2000.
7. Hutchinson J: Notes on the cancerous process and on new growths in general. Arch Surg (London) 2:83-86, 1890. cited from ref. 1
8. Hutchinson J: Lentigo melanosis: a further report. Arch Surg (London) 5:253-256, 1894. cited from ref. 1
9. Weinstock MA, Sober AJ: The risk of progression of lentigo maligna to lentigo maligna melanoma. Br J Dermatol 116:303-310, 1987.
10. Cohen LM, McCall MW, Hodge SJ, Freedman JD, Callen JP, Zax RH: Successful treatment of lentigo maligna and lentigo maligna melanoma with Mohs micrographic surgery aided by rush permanent sections. Cancer 73:2964-2970, 1994.
11. Holman CDJ, Mulroney CD, Armstrong BK: Epidemiology of pre-invasive and invasive malignant melanoma in western Australia. Int J Cancer 25:317-323, 1980.
12. Rocmora V, Puig L, Romani J, Moragas JM: Amelanotic lentigo maligna melanoma: report of a case and review of the literature. Cutis 64:53-56, 1999.
13. Cohen LM, McCall MW, Zax RH: Mohs microscopic surgery for lentigo maligna and lentigo maligna melanoma. Dermatol Surg 24:673-677, 1998.
14. Lane H, O'Loughlin S, Powell F, Magee H, Dervan PA: A quantitative immunohistochemical evaluation of lentigo maligna and pigmented solar keratosis. Am J Clin Pathol 100:681-685, 1993.
15. Skelton HG, Smith KJ, Barrett TL, Lupton GP, Graham JH: HMB-45 staining in benign and malignant melanocytic lesions: A reflection of cellular activation. Am J Dermatopathol 13:543-50, 1991.
16. Stonecipher MR, Leshin B, Patrick J, White WL: Management of lentigo maligna and lentigo maligna melanoma with paraffin-embedded tangential sections: utility of immunoperoxidase staining and supplemental vertical sections. J Am Acad Dermatol. 29:589-594, 1993.
17. Langford FP, Fisher SR, Molter DW, Seigler HF: Lentigo maligna melanoma of the head and neck. Laryngoscope 103:520-524, 1993.