Case Report

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Bone marrow and cervical lymph nodes metastases as prodromal manifestations of malignant melanoma in a child

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Abstract

Malignant melanoma in children is rare. It can arise from congenital melanocytic nevi. In pediatric patients, diagnosis of melanoma is difficult and challenging because the physicians have a low index of suspicion. Marrow metastasis in malignant melanoma especially in children is extremely uncommon. Here, the authors reported a 5 year old girl who was presented with a 4 month history of pelvic and right lower limb pain and limping to the pediatric outpatient clinic in August 2016 at Shahid sadoughi Hospital,Yazd,Iran. She was febrile and had right cervical lymphadenopathy and scalp congenital nevus. The investigations confirmed the diagnosis of malignant melanoma with marrow and cervical lymph node metastases. The patient underwent multidisciplinary management and she was followed up closely.

Metastatic malignant melanoma is a rare and dangerous disease with poor prognosis in children. It should be considered in differential diagnosis of children with congenital melanocytic nevi.

Key words: Malignant melanoma, Bone marrow, Metastasis, Child

Introduction

Malignant melanoma in children accounts for 1% to 4% of all cases of melanoma and for 1% to 3% of all children malignant tumors (1).Pediatric melanoma is divided into congenital, infantile , childhood ,and adolescent groups. It can arise from congenital melanocytic nevi. The risk for development of melanoma in a congenital nevus increases with its size (2). According to one study, large congenital melanocytic nevi were found in 33% of children with malignant melanomas (3). Malignant melanoma with widespread metastases, including bone marrow metastasis is extremely rare in children. To the best of our knowledge, there are only a few cases of malignant melanoma metastasizing to the bone marrow in children (4). In the Iranian literature, there is no previously reported case of malignant melanoma with widespread metastases as an initial manifestation in children. Here, the authors reported a rare case of a 5-year-old girl with a scalp congenital mela¬nocytic nevus who was presented with malignant melanoma metastasizing to bone marrow and cervical lymph nodes as a prodromal manifestation.

Case report

A 5-year-old girl, referred to the pediatric outpatient clinic in August 2016 at Shahid sadoughi Hospital,Yazd,Iran, with complaint of a 4 month history of pain in the right lower limb and limping. The pain did not disturb her sleep and responded to analgesic drugs and rest. Her parents also noticed fever and enlargement of her right cervical lymph nodes. On physical examination, the girl was febrile on admission. A congenital nevus was found on the patient's scalp and her right cervical lymph nodes were palpable. The diameter of the nevus was about 7 centimeters. According to her mother, the nevus had

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not changed in size or appearance. Neurological examination revealed mild neck stiffness. Laboratory investigations found normal white blood cell count (5 x 109/L) a hemoglobin level of 8.3g/dl and normal platelet count (176 x 109/L.ESR (erythrocyte sedimentation rate) was 127 mm/h, but CRP (C reactive protein) was negative. Biochemistry tests revealed calcium level of 11.3 mg/dl. Serology results showed positive anti CMV(cytomegalovirus) IgM antibody. Lumbar puncture results were unremarkable. No pathology was found on x-ray of the chest. Thoracic and abdominal CT scans revealed several lytic and expasile lesions in thoracic vertebrae, ribs, humerus, scapula, lumbar vertebrae, pelvic bone, and femur. Ultrasound examination of the neck confirmed the previous finding of enlarged lymph nodes in the right side. Abdominal ultrasound showed mesenteric lymphadenopathy with malignant features. Subsequently, bone marrow aspiration was performed. Smears showed bone marrow infiltration with atypical cells with irregular nuclei, ample cytoplasm with many vacuoles (Figure1-A). Immunophenotyping(flow cytometry) for usual lymphoid and myeloid markers were negative. Since bone marrow aspiration was not diagnostic and we could not rule out metastatic tumor, cervical lymph node biopsy was done. The resected lymph nodes were black. Sections showed diffuse infiltration of the lymph node by a population of large pleomorphic tumor cells with large nuclei and their cytoplasm was full of black pigment. The cells expressed vi¬mentin, S100 protein and HMB45 (Figure.1B,C). It confirmed the diagnosis of metastatic malignant melanoma. The girl was referred to pediatric oncology depart¬ment .After completion of the initial work-up, the final diagnosis was malignant melanoma with metastatic spread to the lymph nodes, bone marrow, bone, and leptomeninge. The patient underwent multidisciplinary management and we followed up her closely.

Discussion

Malignant melanoma is rare in children. The exact incidence of subtypes of pediatric melanoma is obscure. Children melanoma occurs in both genders; however, in adolescents it is more frequent in girls, but in children, somewhat more in boys (5).It seems pediatric melanoma is more frequent in the second decade of life. The clinical manifestation of children with melanoma is heterogeneous. One study showed that 8 of 443 patients developed melanoma on congenital nevi (6). Presentation of pediatric melanoma with widespread metastases, including marrow involvement is rare (7). Jana Volejnikova described a case of malignant melanoma arising in a large congenital melanocytic nevus with spreading to the bone marrow in a 5-year-old boy. Histologic diagnosis of melanoma can be difficult in children. Advanced stage at the time of diagnosis is an ominous sign, as in adult cases. There is very limited information on the best therapy of metastatic melanoma in pediatrics. Although surgery is the cornerstone therapy, excellent improvement has been made in the field of immunotherapy. It may gradually sub situate chemotherapy. Survival of patient with malignant melanoma in child¬hood depends on the tumor stage. In a study conducted by Lacoste et al., the mortal¬ity rate was about 60% (8). However, in children with metastatic disease, a reported 5-year survival dropped to 30% (9). A multidisciplinary approach is needed. As malignant melanoma is very scarce in children, high level of suspicion is necessary to make a timely and correct diagnosis.

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Conflicts of interest

The authors confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

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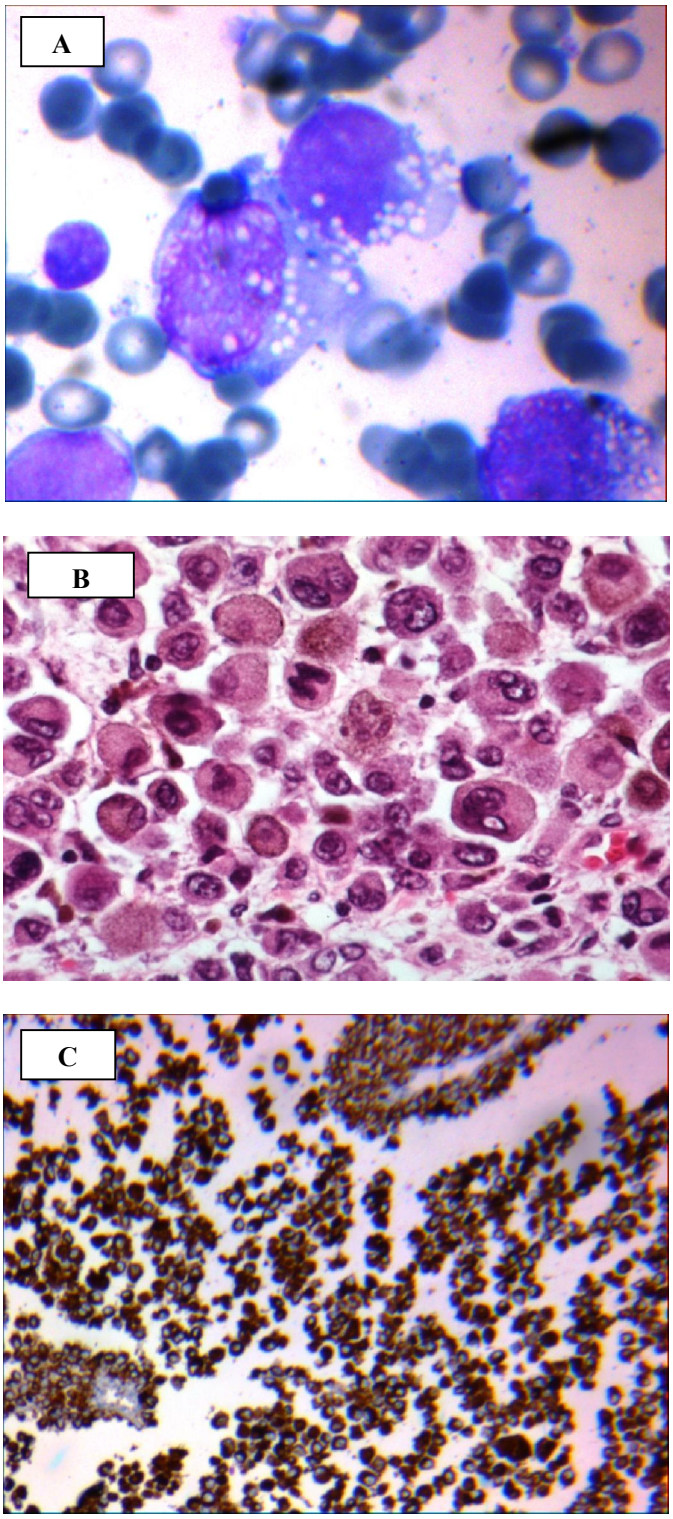

Figure1. A:Bone marrow aspiration smear, B: Cervical lymph node, C :HMB45 stain.

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