Solitary Mastocytoma on the Scalp

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Nine-month-old female infant was seen with a 7-month history of a nodule on the right temporal scalp, which had gradually increased in size. Stroking of the lesion resulted in urtication and blistering and there were no other cutaneous lesions. The histology showed subepidermal bulla formation and a dense infiltration of mast cells in the papillary and reticular dermis. We present an infant with solitary mastocytoma on the scalp, a rare site.
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Key Words : Solitary mastocytoma, Scalp

Mastocytosis is a condition characterized by mast cell hyperplasia and release of mast cell mediators. The most commonly affected organ is the skin and the cutaneous manifestations include solitary or multiple mastocytomas, urticaria pigmentosa, diffuse and erythrodermic mastocytosis including bullous mastocytosis, and telangiectasia macularis eruptiva perstans. Solitary mastocytoma is a relatively rare lesion and usually presents at birth or develops during early infancy. It mostly presents on the extremities and trunk[1,2], but rarely it can present on other areas such as palm[3], eyelid[4], ear lobe[5] and scalp[6].

CASE REPORT

Nine-month-old female infant was seen with a 7-month history of a nodule on the right temporal scalp, which had gradually increased in size. The lesion was asymptomatic except for blistering when touched. She was in good health and had no history of skin disease. On the physical examination, there was a 2 × 1.5cm sized ovoid red-brown nodule on her right temporal scalp(Fig. 1). Stroking of the lesion resulted in urtication and blistering(Fig. 2). There were no other cutaneous lesions or abnormal physical findings.

The histopathologic examination showed subepidermal bulla formation and a dense monomorphous cellular infiltration in the papillary and reticular dermis, which showed small uniform ovoid nuclei and abundant granular cytoplasm. Eosinophils were also mixed. They were metachromatically stained in the granules of monomorphous cells on toluidine blue stain(Fig. 3). A diagnosis of solitary mastocytoma was made. Topical steroid was prescribed and nodule is persisting with occasional vesiculations through 7 months of follow up.

DISCUSSION

Solitary mastocytoma of the human skin, first described by Gross in 1934[4], has been estimated to be present in about 10 to 15% of patients with cutaneous mastocytosis. The lesion usually presents at birth or develops within the first three months of life. It can present as a 0.5cm to 3cm sized red-brown or yellow macule, plaque, or nodule[5,6]. In most cases the lesions urticate on rubbing, due to mediator release(Darier's sign), but vesiculation or

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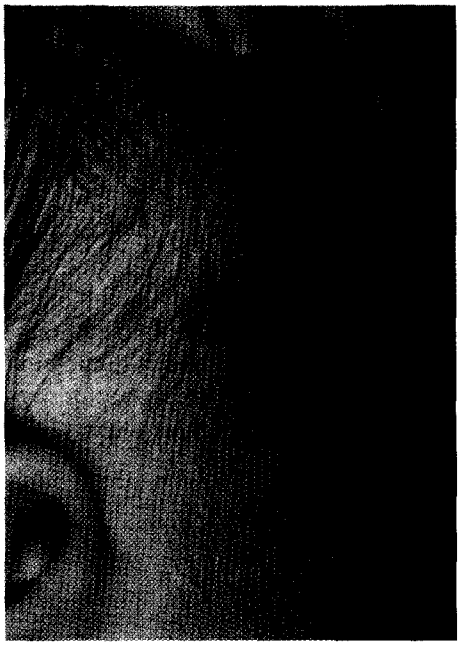

Fig. 1. Relatively well-defined 2 × 1.5cm sized ovoid red-brown nodule on the right temporal scalp.

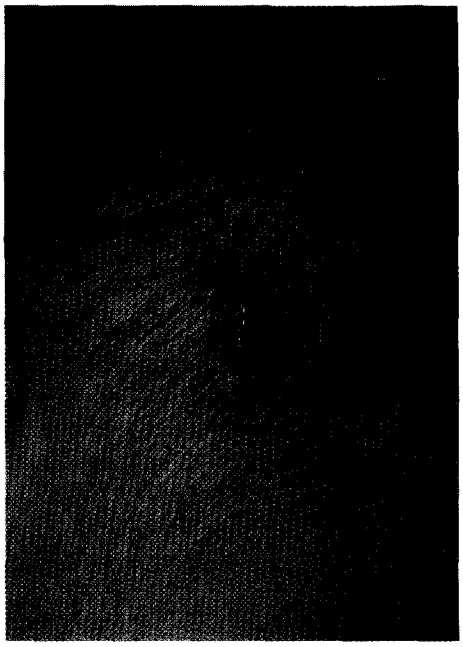

Fig. 2. Stroking of the lesion resulted in urtication and blistering.

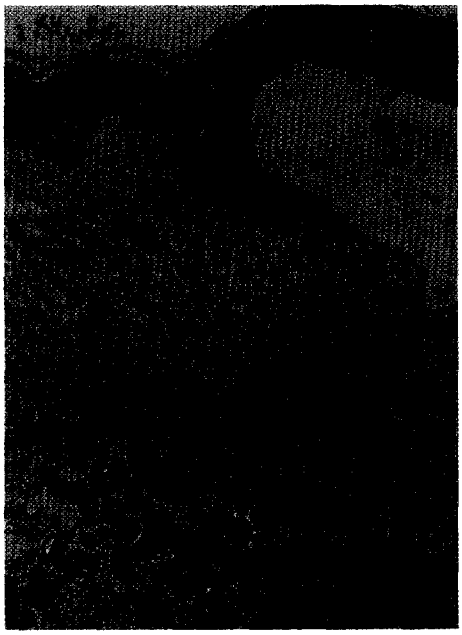

Fig. 3. Histopathologic examination revealed subepidermal blister formation and a dense papillary and reticular dermal monomorphous infiltraton. Eosinophils were also shown scattered(H&E, ×100). Inset : Toluidine blue stain metachromatically stains the granules of mast cells purple(Toluidine blue stain, × 400).

blistering is common in lesions in infancy[5,7]. Systemic symptoms are rare.

Most cases of solitary mastocytoma occur on the extremities and trunk[1,2]. But rarely, it has been reported to be present on the palm[3], sole, eyelid[4], earlobe[5] and scalp[6]. On the review of the English literatures published from 1960 to 2002 by MEDLINE searching, we could find only two cases occurring on the scalp.

The symptoms result from histamine and other mast cell mediators like leukotrienes, prostaglandins and platelet activating factor, but the exact etiology for proliferation and accumulation of mast cells is not known[5]. Normal mast cell development requires an interaction between mast cell growth factor and c-kit receptors. The postulated pathogenesis include c-kit receptor mutation, excessive production of c-kit ligand or increased production of soluble form of mast cell growth factor[5,7].

Clinical differential diagnosis includes melanocytic nevus, xanthoma, or juvenile xanthogranuloma. Bullous impetigo or epidermolysis bullosa shoud also be excluded in cases of blistering mastocytoma in the neonatal period or infancy[3,5,6]. Most solitary mastocytomas tend to involute spontaneously during childhood. It is known that sys-

temic involvement or progression to malignant disease does not occur[2,7,8].

We describe an infant with a solitary mastocytoma on the scalp, a rare site.

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