Multiple Eccrine Hidrocystoma Treatedwith 1% Topical Atropine Sulfate

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We report a case of multiple eccrine hidrocystoma(MEH) in a 57-year-old woman who had asymptomatic, discrete, skin-colored, shiny, firm papulovesicles on the face. These lesions enlarged during summer or when the patient did housework, and decreased in size during winter or rest. Histologic examination showed a dilated, unilocular, cystic, invaginated structure within the middle dermis. The wall of the cyst generally consisted of two layers of flat or cuboidal epithelial cells. Decapitation secretion and myoepithelial cells were not observed. The lesions improved markedly with 1% topical atropine sulfate.
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Key Words : Multiple eccrine hidrocystoma, Topical atropine sulfate

Eccrine hidrocystoma, a benign tumor of the epidermal appendages, was first described by Robinson in 1893[1]. This condition usually occurs as a solitary vesicle located predominantly on the face[2,3]. Multiple lesions are rarely reported[3,4,5,6,7,8,9,10].

To our knowledge, only three cases of MEH have been reported in the Korea literature[3,4,5]. In this report, we present a case of MEH on the face in a 57-year-old woman, which was successfully controlled with 1% topical atropine sulfate.

CASE REPORT

A 57-year-old woman visited our clinic for evaluation of multiple skin lesions on the face, which had been present for approximately 10 years (Fig. 1). Individual lesions were asymptomatic, discrete, skin-colored, shiny, firm papulovesicles, which enlarged during hot weather and decreased in size during rest or winter. Her familial and past medical histories were not remarkable.

Biopsy specimens obtained from two isolated lesions showed similar findings. Histologic examination revealed a dilated, unilocular, cystic, invaginated structure within the middle dermis (Fig. 2). The wall of the cyst generally consisted of two layers of flat or cuboidal epithelial cells with round to oval nuclei and eosinophilic cytoplasms. Decapitation secretion and myoepithelial cells were not observed. Immunohistochemistry revealed the epithelial cells of the cyst to be positive for epithelial membrane antigen (Fig. 3), carcinoembryonic antigen and cytokeratin 19.

She was treated with 1% topical atropine sulfate, applied once a day. With this regimen, the lesions improved markedly within 2 weeks, then application of once per week had maintained it well during 3 months follow-up period.

DISCUSSION

Eccrine hidrocystoma is common and affects

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adults of any age[6,10]. This condition with a slight female predilection usually appears as solitary, but occasionally several, and rarely numerous lesions. Individual lesions vary in size from pinhead to pea-sized and appear as tense vesicles located predominantly on the face, particularly periorbitally, but the trunk and popliteal fossa may rarely be affected[6]. The lesions sometimes have a slightly bluish hue. In some patients with numerous lesions including our patient, the number of lesions increases during summer and decreases during winter[6,7,8,9,10].

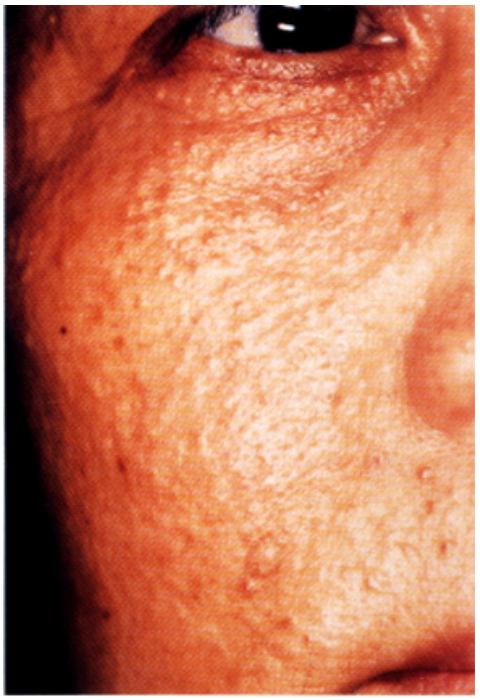

Fig. 1. Multiple, asymptomatic, discrete, skin-colored, shiny, firm papulovesicles on the face, particularly periorbitally.

Histologically, eccrine hidrocystoma is usually solitary, partially collapsed, unilocular cyst in the dermis. The cyst wall usually consists of two layers of small, cuboidal epithelial cells. In some areas, the wall is only one cell layer thick, which is thought to be due to a greater internal pressure in those cysts[6]. Serial sections may reveal an eccrine duct leading into the cystic cavity[11]. Unlike apocrine hidrocystoma, there are no decapitation secretion and myoepithelial cells[12]. Enzyme histochemistry reveals phosphorylase and succinic dehydrogenase, which are eccrine enzymes, in the cyst walls[9].

Histogenesis of eccrine hidrocystoma is uncertain. As the report of Sperling and Sakas in 1982,[10] we think that eccrine hidrocystoma is a retention cyst resulting from the sweat duct blockage based on the following aspects. First, the number and size of these lesions increased during summer and decreased during winter, closely paralleling sweat production and retention. Second, the light microscopic features of these lesions showed similarity to those of the intradermal portion of the eccrine sweat duct. Third, topical applications of atropine sulfate, which inhibits eccrine sweat production strongly and selectively, produced marked clinical improvement. Even though the exact reason of the sweat duct blockage that results in cyst formation is not ascertained, we assume that senile degeneration of the duct may play a role in eccrine hidrocystoma because most cases were over middle aged.

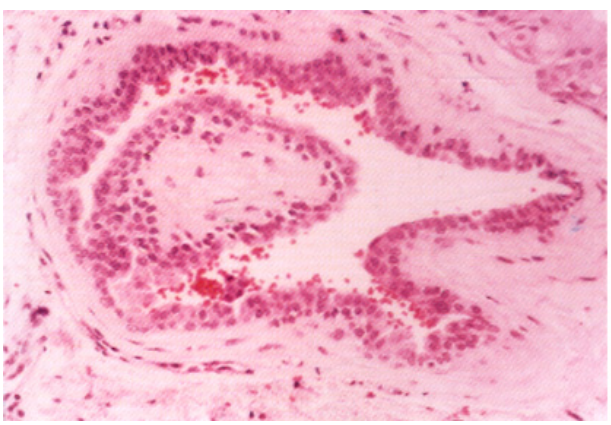

Fig. 2. A dilated, unilocular, cystic, invaginated structure in the dermis(H&E stain, ×200).

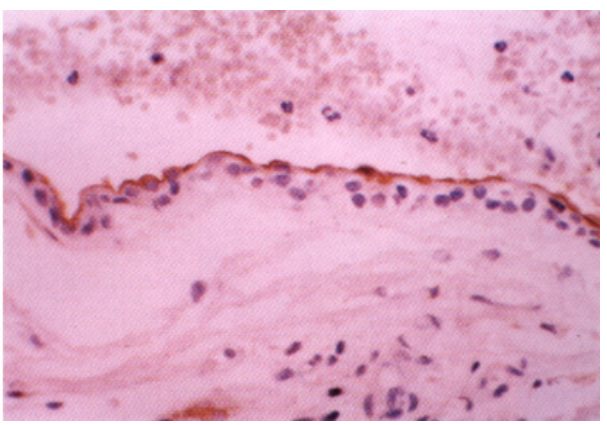

Fig. 3. The immunohistochemical stain with epithelial membrane antigen showed positivity in the epithelial cells of the cyst(original magnification; ×400).

Treatment of an isolated eccrine hidrocystoma is excision. More challenging is the treatment of the MEH, in which surgical treatment can be expected to be unsatisfactory. Complete excision or vigorous destruction of these deep seated lesions will eventuate in scarring, an unacceptable result when dozens of lesions are involved. Simple puncture of the cyst will only yield a temporary solution, since the hidrocystomas have been shown to reform after needle puncture[7]. Sperling and Sakas reported a patient of MEH treated with topical atropine, 1% in Aquaphor applied once a day, who achieved complete clearing of the lesions within 1 week without side effects[10]. Similarly, our patient was successfully controlled with 1% topical atropine sulfate.

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