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REVIEW ARTICLES

CASE STUDIES

CASE STUDY

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Clinical and morphological features of eccrine acrospiroma: analysis of literature data and case from practice

Mykhailo S. Myroshnychenko[1], Hanna O. Sakal[1], Nana M. Pasiyeshvili[2], Nataliia V. Kapustnyk[2], Maryna O. Kucheriavchenko[1], Oleksandr E. Kotenko[1], Ihor O. Maistrenko[1], Victor A. Sirenko[1]

[1] KHARKIV NATIONAL MEDICAL UNIVERSITY, KHARKIV, UKRAINE

[2] PUBLIC NONPROFIT ORGANIZATION OF THE KHARKIV DISTRICT COUNCIL «REGIONAL CLINICAL PERINATAL CENTRE», KHARKIV, UKRAINE

ABSTRACT

Eccrine acrospiroma is a rare benign tumor of the skin arising from the epithelial cells of eccrine sweat ducts. The clinical picture is characterized by its variability, so a detailed morphological study of the operative material is necessary to establish a diagnosis. Differential diagnosis must be carried out with hemangioma, melanoma, infected sebaceous cyst, metastatic skin lesion, and other tumors from elements of the sweat gland. In the article the authors presented the clinical and morphological analysis of own case from practice of large eccrine acrospiroma on the back surface of the left thigh which was diagnosed in a 56-year-old man.

KEY WORDS: eccrine acrospiroma, clinical and morphological features, case from practice

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INTRODUCTION

Eccrine glands are the smaller, numerous glands that are diffusely distributed all over the body and derived from embryonic ectoderm [1]. They play an important role in cooling down body temperature by secreting primarily water that contains electrolytes [2, 3].

Benign and malignant tumors deriving from eccrine glands are highly heterogeneous and represent various histological entities [4]. Eccrine acrospiroma is a rare benign tumor of the skin arising from the epithelial cells of eccrine sweat ducts [5]. The term «acrospiroma» was first defined by Johnson BL Jr and Helwig EB in 1969 where «spiroma» means adenoma of sweat glands and «acro» indicates the top most or end [6]. Eccrine acrospiroma are also termed as clear cell epithelioma, clear cell myoepithelioma, nodular hidradenoma, solid-cystic hidradenoma etc. [5, 7].

Eccrine acrospiroma is twice as common in women as in men. It can develop in people of any age, but most often during the fourth and fifth decades of life [8]. This tumor can occur in any part of body, but most often it is located in face (30%), scalp (10%), trunk (14%), foot (15%), and hand (5%) [6].

The diagnosis of eccrine acrospiroma is carried out only by conducting a thorough morphological examination of the excised tumor with surrounding tissues [9]. The prognosis is favorable in the vast majority of cases. Removing the tumor provides recovery. This tumor is not associated with recurrence when adequately excised [10]. Malignant transformation of eccrine acrospiroma is rare but can arise de novo or in long standing cases [6].

There is limited information in literatures about eccrine acrospiroma considering the rarity of this tumor. In the present article, we carry out a clinical and morphological analysis of own case from practice of eccrine acrospiroma which was diagnosed in a 56-year-old man.

CASE REPORT

A 56-year-old man came to the hospital with complaints of a painless tumor on the back surface of the left thigh, which appeared two years ago and increased in size over time. The skin of the thigh above the tumor was unchanged. On palpation, the tumor was characterized by the presence of a cavity and had a soft consistency. After an objective examination, a clinical diagnosis of dermoid cyst was established. The patient underwent removal of the tumor. The surgical material was sent to the pathology department for morphological examination.

During the macroscopic examination of the surgical material, a fragment of the skin with underlying soft tissues was determined. A tumor fragment was visu-

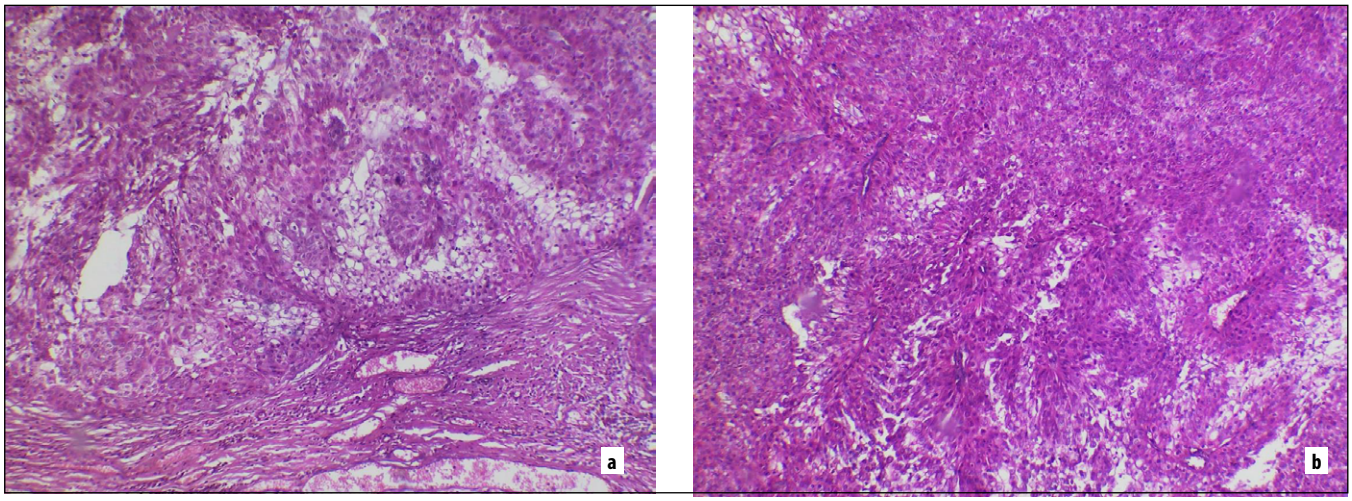

Fig. 1. The tumor is separated from the surrounding tissues by a connective tissue capsule (a). Tumor tissue is represented by spindle-shaped cells with elongated nuclei and basophilic cytoplasm; polygonal cells with rounded nuclei and light, non-staining cytoplasm; round-oval cells with clear contours, distinct light pink cytoplasm, pale colored and monomorphic nuclei (a, b). Polysade-like arrangement of cells around the vessels (b). Hematoxylin and eosin staining, a)×200, b)×200.

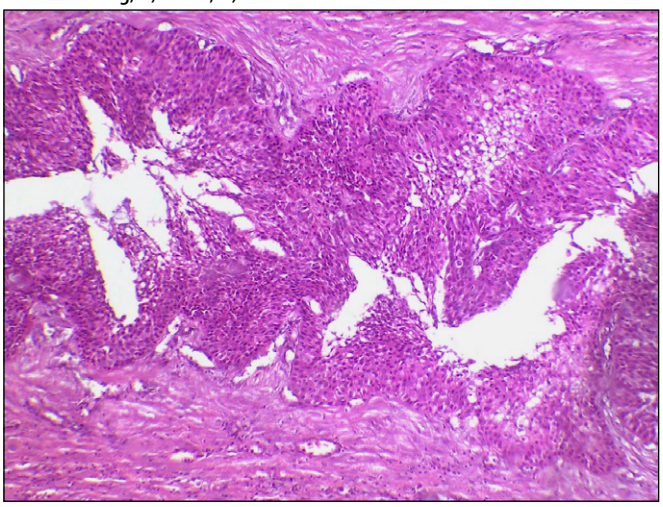

Fig. 2. The wall of the cyst with a multi-row lining of cells without a specific orientation with focal alterative changes. Hematoxylin and eosin staining, ×200.

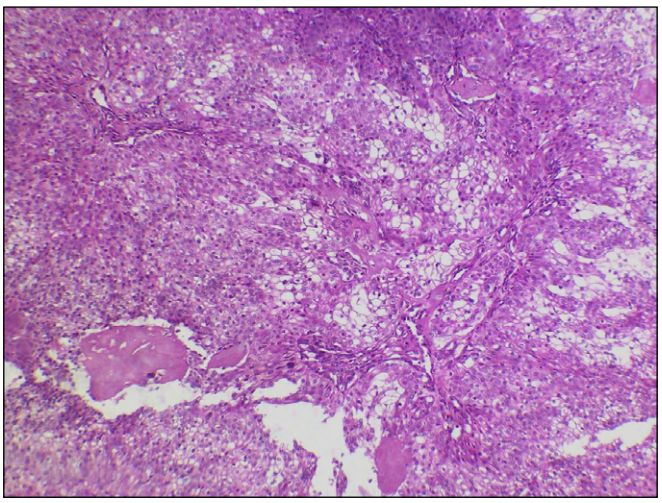

Fig. 3. Foci of hyalinosis in the tumor. Hematoxylin and eosin staining, ×200.

alized above the surface of the skin. On section, the tumor was localized above the surface of the skin and in its thickness. It was 4.5×4.0×2.5 cm in size. The tumor had a rounded shape, was encapsulated, gray-white in color with small cysts in separate areas.

A survey microscopy revealed a tumor with a well-defined connective tissue capsule with focal lymphoid-macrophage infiltration and plethoric vessels. The tumor was characterized by the presence of spindle-shaped cells with elongated nuclei and basophilic cytoplasm; polygonal cells with rounded nuclei and light, non-staining cytoplasm; round-oval cells with clear contours, distinct light pink cytoplasm, pale colored and monomorphic nuclei. In some places the cells formed trabecular structures (Fig. 1). In some of the visual fields, a polysade-like arrangement of cells was noted, which were grouped around the vessels like rosettes (Fig. 1). In some fields of view, tubular-like structures were identified, indicating ductal differentiation and represented by glandular inclusions formed by large cells with light cytoplasm. In some places, cysts were identified, which on the inner surface had a multi-row lining of cells without a specific orientation with focal alterative changes (Fig. 2). In the lumen of some cysts, homogeneous, slightly colored masses were found. Foci of hyalinosis were often visualized in the tumor (Fig. 3). The histological picture of the tumor described above corresponded to eccrine acrospiroma.

In the analyzed case from practice, eccrine acrospiroma was characterized by large size. According to literature data, this tumor presents as a small, solitary, solid, or cystic lesion measuring about 1-2 cm in size [7].

The etiopathogenesis of eccrine acrospiroma is currently an incompletely studied issue. Some scientists

emphasize the relationship between the development of this tumor and a previous skin injury [8]. Ultraviolet exposure, radiation, immunosuppression also play role in the genesis of these tumors development [4]. Other skin tumors increase the risk of developing eccrine acrospiroma [4].

Clinical symptoms of eccrine acrospiroma can be quite diverse – from the absence of pain and signs of the inflammatory process to bright manifestations of inflammation in the tumor area. The latter are manifested by hyperemia of the skin and necrotic changes development, the presence of pain, an increase in local temperature and deterioration of well-being [11]. The diagnosis of eccrine acrospiroma occurs only by morphological examination of the operative material. Sometimes the morphological diagnosis of these tumors causes difficulties and confusion even among experienced pathologists [12]. Differential diagnosis must be carried out with hemangioma, melanoma, infected sebaceous cyst, metastatic skin lesion, and other tumors from elements of the sweat gland [5, 6].

CONCLUSIONS

Eccrine acrospiroma is a fairly rare benign tumor of the skin arising from the epithelial cells of eccrine sweat ducts, which does not have characteristic clinical symptoms and is diagnosed by morphological examination of the surgical material. The correct method of treatment is surgical removal of the tumor with surrounding soft tissues. In the article the authors presented the clinical and morphological analysis of own case from practice of large eccrine acrospiroma which was diagnosed in a 56-year-old man.

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CONFLICT OF INTEREST

The Authors declare no conflict of interest

CORRESPONDING AUTHOR

Mykhailo S. Myroshnychenko
Department of General and Clinical Pathological Physiology
named after D.O. Alpern, Kharkiv National Medical University,
4 Nauky avenue, Kharkiv, 61022, Ukraine
e-mail: msmyroshnychenko@ukr.net

ORCID AND CONTRIBUTIONSHIP
Mykhailo S. Myroshnychenko: 0000-0002-6920-8374 D
Hanna O. Sakal: 0000-0002-1648-0585 A
Nana M. Pasiyeshvili: 0000-0002-8016-4288 B
Nataliia V. Kapustnyk: 0000-0002-4875-398X E
Maryna O. Kucheriavchenko: 0000-0001-9931-7478 D
Oleksandr E. Kotenko: 0000-0001-8497-4811 F
Ihor O. Maistrenko: 0009-0006-9633-2561 B
Victor A. Sirenko: 0009-0003-8368-3790 A

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