A Case of Seborrheic Keratosis in an Adolescent: Quite Rare Disease in Japan

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A 19-year-old woman with three seborrheic keratosis on her right abdomen and five seborrheic keratosis on her both buttocks is presented. That developed at the age of five and two months prior to the visit. At our initial dermatological examination, we noticed three oval, well defined, brown tumors on her right abdomen, and several round, well defined, brown nodules on her both buttocks. Dermoscopy findings showed comedo-like openings, fissures, and ridges. Histopathological examination showed hyperkeratosis and pseudohorn cysts, and basaloid keratinocytes proliferation with no dysplastic cells. These findings were consistent with SK. She was treated by cryotherapy using a liquid nitrogen spray, and her tumors and nodules dropped off entirely.
Juvenile-onset of seborrheic keratosis is quite rare in East Asian countries and needs to be differentiated from keratinocytic epidermal nevus.

Key words: juvenile, childhood, young adult, keratinocytic epidermal nevus

INTRODUCTION

Seborrheic keratosis (SK) is the most commonly acquired benign epithelial tumor in middle-aged and older adults [1, 2]. SKs begin as circumscribed tan brown patches or thin plaques, and they may become more papular or verrucous with a greasy scale and a stuck-on appearance [3]. They have several clinicopathologic and histologic variants, namely common SK, reticulated SK, stucco keratosis, melanoacanthoma, dermatosis papulose nigra, polypoid SK, clonal SK, and irritated SK [3]. SK is also known as verruca senilis, the incidence of SK increases with age [1, 2], and onset in children and adolescents is considered rare [2].

Herein, we report a case of SK in an adolescent, in which keratinocytic epidermal nevus was ruled out.

CASE REPORTS

A 19-year-old woman visited to our clinic with three brown tumors on her right abdomen that developed at the age of five, and five brown nodules on her both buttocks that developed two months prior to the visit. She had a history of childhood asthma but has been cured. She had no familial history of SK. At our initial dermatological examination, we noticed three oval, well defined, brown tumors on her right abdomen (Fig. 1a), and several round, well defined, brown nodules on her both buttocks. Dermoscopy findings showed comedo-like openings, fissures, and ridges (Fig. 1b). Histopathological examination showed hyperkeratosis and pseudohorn cysts (Fig. 2a), and basaloid keratinocytes proliferation with no dysplastic cells (Fig. 2b). These findings were consistent with SK. She was treated by cryotherapy using a liquid nitrogen spray, and her tumors and nodules dropped off entirely.

DISCUSSION

SK is defined as a benign hyperplastic tumor of the epidermis [4]. SK is by far the most common human tumors, both the prevalence and the median number of lesions increases steadily with increasing age, and men and women are affected equally [5]. There are several variants of SK, and the reticulated SK is one of them. Histopathology of this variant has an architecture with more-subtle, thin, elongated rete ridges and small horn cysts [4]. Our case is considered to be reticulated SK due to its histologically composed of interconnected delicate downgrowths of pigmented basilar epithelial cells with horn cysts. For the treatment of SK, destructive techniques such as cryotherapy, electrodesiccation followed by curettage, or laser ablation have all been shown to be effective [3].

There have been many studies conducted internationally on the onset age brackets of SK. A single-center study of 250 cases of SK in south India showed that onset of SK were most commonly seen in 41–60 age group at 50.2%, followed by 32.7% in 21–40 age group, and 13.5% in 61–80 age group [1]. There were only 2.8% (7 out of 250 cases) with onset earlier than 20 years of age [1]. On the other hand, there are papers suggesting that SK is not so uncommon among young people, and that the term *senile keratosis*

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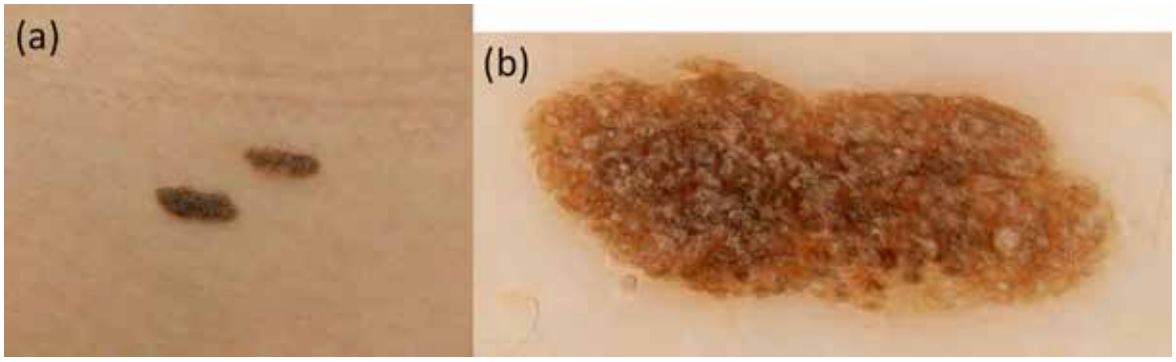

Fig. 1 (a) Two of the three oval, well defined, brown tumors on her right abdomen. (b) Dermoscopic findings: Comedo-like openings, fissures, and ridges on her abdominal seborrheic keratosis.

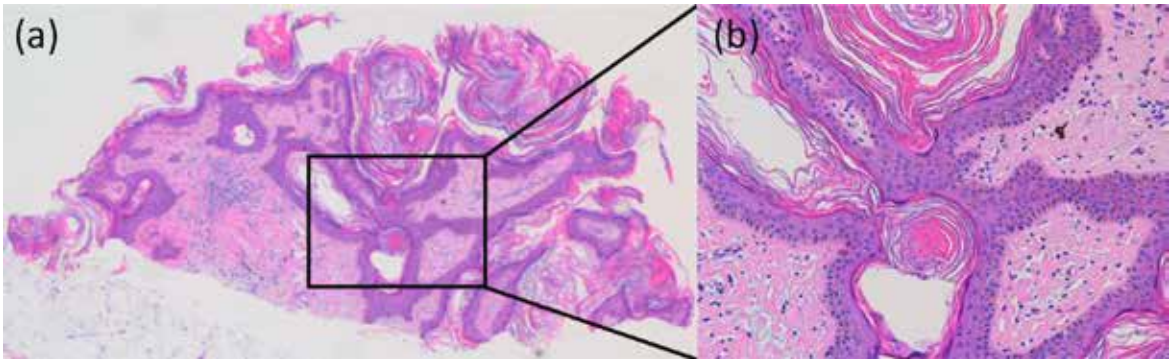

Fig. 2 (a) Histopathologic findings (HE stain): Hyperkeratosis and pseudohorn cysts (original magnification × 40). (b) Histopathologic findings (HE stain): Basaloid keratinocyte proliferation without atypical cells (original magnification ×200).

is not a suitable synonym for *seborrheic keratosis* [6]. The single-center study of 170 Caucasian people, aged 15 to 30, in Australia showed that 23.3% had at least one SK [6]. The prevalence of SK in 15–19 age group was 15.7%, and the percentage increased with age up to 21.1% in 20–24 age group and 32.3% in 25–30 age group [6]. Recently in 2024, a single-center study was reported from South Korea [7]. Among 174 SK cases, there were none under 10 years and younger, and only 1.1% (2 out of 174 cases) were in 10–19 age group [7]. Japan and Korea are both East Asian countries, thus, the prevalence of SK in Japan may be similar to that in Korea, making our case a unique case. It has been reported that two cases of SK in an adolescent and young adult in Japan. One case was an 18-year-old female with multiple SKs and a family history of the same symptoms in her father, and the other case was a 22-year-old male with more than a hundred of SKs and black nevi in his upper trunk and diagnosed with sporadic dysplastic nevi [8, 9].

When encountering adolescent SK cases, segmentally arranged or linearly arranged multiple SKs should be differentiated from keratinocytic epidermal nevus (KEN). KEN constitutes a type of mosaic disorders and appears along the Blaschko's lines [10]. The individual skin lesion of common type KEN cannot be differentiated from ordinary SK clinically, histopathologically, or genetically [5], therefore they are differentiated for the most part by their arrangement: whether the lesions follow Blaschko's line or not [10]. Our case was ruled out, as her multiple SK lesions were not aligned along Blaschko's line.

In conclusion, juvenile-onset of SK might be more common in various populations around the world, though it is quite rare in East Asian countries, including Japan.

CONFLICTS OF INTEREST STATEMENT

None declared.

ETHICS STATEMENT

The patient in this manuscript have given informed consent for publication of their case details.

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