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Kissing nevus of the penis: A case report

Yang Luo†; Yong-tong Zhu†; Cheng-zu He; Yu Zhang; Shi-yu Pang; Huan Zhou; Yong-jian Deng; Li-li Ma*; Wan-long Tan*

***Li-li Ma[1] & Wan-long Tan[2]**

[1]Department of Pathology, Nanfang Hospital and School of Basic Medical Sciences, Southern Medical University, Guangzhou 510515, China

[2]Department of Urology, Nanfang Hospital, Southern Medical University 510515, China
Email: malili@smu.edu.cn & twl@smu.edu.cn

†Yang Luo and Yong-tong Zhu contributed equally to this work

Abstract

Kissing nevus is an unusual lesion that was first described on the eyelids. These nevi include the divided epidermal nevus of the finger, mast cell nevus, nevus spilus of the eyelids and kissing nevus of the penis. A kissing nevus of the penis is a rare embryological occurrence. To date, < 20 cases have been reported in English-language literature. The appearance of a congenital melanocytic nevus can be difficult to distinguish from penile melanosis. This article presents the successful excision and histopathologic evaluation of one such nevus. As the risk of malignant transformation is low, conservative management with regular follow-up or management of the lesion of the foreskin alone are also viable options.

Keywords

nevus; penis; melanocytes; urology

Introduction

Kissing nevus is an unusual lesion that was first described on the eyelids and has been rarely described on the penis. They are located on adjacent sites of the body at which division occurs during embryogenesis. Kissing nevus of the penis is exceedingly rare. To date, only 18 cases have been reported in the English-language literature. Here, we present a case of kissing nevus of the penis as well as histopathological findings.

Case Presentation

The patient is a 10-year-old Chinese boy who presented to the Department of Urology, Nanfang Hospital, Southern Medical University, with a 4-year history of asymptomatic melanocytic nevus on his penis (Figure 1). The patient's father recalled that the lesions were significantly larger than 4 years prior. The patient had no family history of nevi or history of trauma. Physical examination revealed a well-circumscribed, flat, homogenous lesion. It was soft, black-colored patch, without ulcerations or tenderness. The pigmented lesions were located on the glans penis (1.3 x 0.3cm) and on the inner surface of the foreskin (1.5 x 0.7cm) on the right side of the dorsum of the penis at almost symmetric locations on each side of the coronal sulcus. With the foreskin retracted, the lesions appeared as mirror images of each

other relative to the coronal sulcus. This mirror-like distribution of the lesion is called a divided or kissing nevus. Whole-body positron emission tomography-computed tomography and ultrasonography of perineum were unrevealing. The combination of physical examination and imaging suggested that the lesions were congenital melanocytic nevi without signs of malignancy. Circumcision was performed for the pigmented lesions after dermatologic consultation and parental discussion. The parents refused surgical treatment of the lesion on the glans. The patient underwent surgical excision of the pigmented lesion of the inner surface of foreskin with a safety margin of 5 mm and the wound was directly sutured. The preputial skin was sent for histopathologic evaluation. The frozen section and the final histopathologic examination were consistent with a compound melanocytic nevus (Figure 2).

Figure 1: Kissing nevi of the penis.

Sharply marginated pigmented lesions on the glans penis and on the inner surface of the prepuce at the dorsolateral side of the penis.

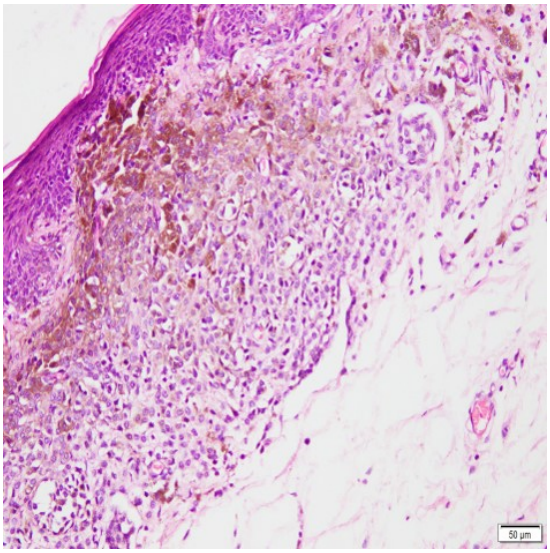

Figure 2: Histopathological examination of the black pigmented lesion on the foreskin

Histology of a biopsy taken from the prepuce showing a compound nevus with no signs of malignancy. Histopathological findings showed tissue covering stratified squamous epithelium, nevus cells located at the dermal-epidermal junction with relatively uniform round or fusiform appearance, without atypia. (hematoxylin and eosin, original magnification ×20).

Discussion

The term divided or kissing nevus was first suggested by Fuchs in 1919 when describing a congenital melanocytic nevus on the adjacent parts of the upper and lower eyelid. This appearance is very rare and can be seen only on those parts of the body that separate at some point during embryogenesis [1]. These nevi include the divided epidermal nevus of the finger, mast cell nevus, nevus spilus of the eyelids, and kissing nevus of the penis [2]. Kissing nevus of the penis is very rare. The first such case was reported in 1998 [3] and since then, only 18 cases have been reported in the English-language literature [2,4-8]. These lesions share some similar features: (a) location on the dorsal or dorsolateral aspect of the glans penis and the inner surface of the prepuce; (b) the coronal sulcus is not involved with melanocytic pigmentation; (c) the size and shape of all nevi are the same, and in some cases represent mirror-images relative to the coronal sulcus. These features led us to hypothesize regarding the possible embryological mechanism of this rare nevi. The kissing nevus of the penis might originate from a single melanoblast lesion at the distal edge of the penis that is divided during separation of glans from the prepuce in the 11^{th} to 14^{th} week of gestation [4]. It has been hypothesized that melanoblasts migrate to the lesion before the embryological separation of epithelial preputial placode, immediately following the completion of the preputial epithelial placode invagination during the 12^{th} week of gestation [4]. Consequently, the melanoblasts divide at this location when epithelial separation occurs between the prepuce and glans by the 13^{th} week of gestation [4]. This embryological disjunction explains why all kissing nevi of the penis have a mirror-image appearance relative to the coronal sulcus.

This patient presented to our clinic with a congenital divided nevus on the penis. Because the lesions on the foreskin and glans had shown rapid changes in size within the previous four years, clinicians at the local hospital had strong suspicions of malignancy. The child and his family were under immense mental and psychological pressure to obtain a diagnosis of malignancy or possible malignancy. Because these lesions are rare and physicians may not have experience with them, in addition to the family's ambivalence, the disease was managed slowly. In fact, malignant melanoma of the penis is very rare, accounting for fewer than 2% of all primary penile malignancies. Most frequently, it is located on the glans (55%), followed by the prepuce (28%), penile shaft (9%) and urethral meatus (8%). Most reported cases of malignant melanoma of the penis occur in the sixth and seventh decade of life [9,10]. Divided nevi of the penis are generally benign lesions. Of all previously reported cases, only one was described as a melanoma [5]. We performed circumcision for the pigmented lesions after dermatologic consultation and parental discussion. Because the parents refused surgical treatment the lesion of the glans, we only excised the pigmented lesion on the foreskin. Ultimately, the frozen section and the final histopathologic examination were consistent with a compound melanocytic nevus.

In our opinion, kissing nevus of the penis is very rare and malignant melanoma of the penis is rarer still. Malignant changes of divided nevi have not been reported to date, neither in divided nevi of the eyelids nor in divided genital nevi. Therefore, methods of treating kissing nevi are many and varied, Of course, the aesthetics and functionality of the penis are the primary considerations in the treatment plan. Surgical excision and reconstruction by skin grafting using oral mucosa of the lower lip or remnant foreskin have been recently performed and have showed satisfactory outcomes [5,7]. Nevertheless, in cases in which nevi are large, as this case, surgical excision may cause scarring or deformity of the glans

penis. We only excised the lesion of the foreskin after dermatologic consultation and parental discussion. As the risk of malignant transformation is low, conservative management with regular follow-up or management of the lesion of the foreskin alone is also a viable option [6].

Acknowledgements

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Authors Information: Yang Luo[1]; Yong-tong Zhu[4]; Cheng-zu He[3]; Yu Zhang[1]; Shi-yu Pang[4]; Huan Zhou[5]; Yong-jian Deng[2]; Li-li Ma[2]*; Wan-long Tan[4]*

[1]Department of Urology, Fifth Affiliated Hospital of Southern Medical University, Conghua District, Guangzhou 510900, China
[2]Department of Pathology, Nanfang Hospital and School of Basic Medical Sciences, Southern Medical University, Guangzhou 510515, China
[3]Department of Urology, Gaoming District Hospital, Foshan city 528500, China
[4]Department of Urology, Nanfang Hospital, Southern Medical University 510515, China
[5]Department of Urology, Taishan City People's Hospital, Taishan 529200, China

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