A Case of Tailgut Cyst as a Subcutaneous Nodule at the Coccygeal Area

Jungyoon Ohn, Sihyeok Jang, Seong-Jin Jo, Kwang Hyun Cho

Department of Dermatology, Seoul National University College of Medicine, Seoul, Korea

Dear Editor:

Tailgut cyst, one of the rare congenital malformations usually presenting in the retrorectal space, is thought to be a remnant of the embryonic postanal primitive gut. The true tail of the embryo is dominant at the 35th day of gestational age (8 mm stage). Since then, it has regress and finally disappears at 56th day of gestational age (35 mm stage). Insufficient of this process may lead to the formation of tailgut cysts, subsequently¹. The size of cyst is several centimeters in diameter. Generally, it locates retrorectal space, but it could be found in perirenal space, thigh, or around anus. Tailgut cyst can be detected at any age, although it usually appears female, aging between 30s and 60s. Its nonspecific presentation includes pain, tenderness, rectal fullness, urinary obstruction, and fever².

In gross examination, tailgut cyst is a multi-loculated cystic mass with a thin and glistening wall, which is filled with colored mucous-like material¹. In histopathologic feature, its inner lumen is lined by a variety of epithelial types, like ciliated columnar, mucin-secreting columnar, transitional, and squamous epithelium. While smooth muscle could be present, a myoenteric neural plexus and serosa are absent¹. The differential diagnosis includes epidermoid cyst, trichilemmal cyst, and pilonidal cyst. Epidermoid cyst is distinguished from tailgut cyst in the in histopathologic point. Its inner wall is lined only by stratified squamous epithelium with granular layer. Also, it contains eosinophilic keratinous laminated debris in itself. Trichilemmal cyst, unlike tailgut cyst, usually presents on the scalp or posterior neck of elderly. In its histopathology, squamous cells without granular layer are lining its inner surface. Pilonidal

cyst³ could be differentiated from tailgut cyst with many aspects. Pilonidal cyst are presented at the area exposed to repeated trauma, like the intergluteal folds or sacrococcygeal region as an epithelialized sinus tract or cyst lined by chronic granulation tissue, containing hairshafts and epithelial debris. Usually, it is accompanied by pain, swelling, and discharge.

Tailgut cyst should be completely excised with clear margin to alleviate symptoms, prevent recurrence, infection and malignant transformation. Because there are some cases of tailgut cyst complicated by adenocarcinoma⁴, carcinoid tumor⁵.

A 55-year-old woman presented to our department with a chief complaint of a slowly growing subcutaneous mass at the coccygeal area in 11-year history. Her medical history was significant for chronic hepatitis C, which had been followed by physicians in Department of Gastroenterology. Her family history was unremarkable. Physical examination revealed a palpable subcutaneous 3-cm-sized mass with tenderness (Fig. 1A). Plain radiography and ultrasonography revealed soft tissue bulging at buttock, and 3.0×2.3×3.4 cm well-defined cystic mass in subcutaneous fat layer at midline over coccyx (Fig. 1B), respectively. Its content was aspirated to be evaluated. It was sesame crunch colored (Fig. 1C). Microscopic and culture study of the fluid showed no evidence of micro-organism. Her laboratory values were within reference limits, except for serum CA19-9 (50.4 U/ml; reference, 0~37 U/ml), which was slightly elevated. Excision of the mass was performed suspicious of epidermal cyst, and its histopathology revealed a 3.5×1.9×1.1 cm sized benign cyst lined

Received May 28, 2015, Revised August 19, 2015, Accepted for publication August 19, 2015

Corresponding author: Kwang Hyun Cho, Department of Dermatology, Seoul National University Hospital, 101 Daehak-ro, Jongno-gu, Seoul 03080, Korea. Tel: 82-2-2072-2410, Fax: 82-2-742-7344, E-mail: khcho@snu.ac.kr

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Copyright © The Korean Dermatological Association and The Korean Society for Investigative Dermatology

Fig. 1. (A) 3-cm-sized palpable nodule in the subcutaneous layer at the coccygeal area. (B) 3.0×2.3×3.4 cm well-defined cystic mass in subcutaneous fat layer at midline over coccyx. (C) Sesame crunch colored aspiration fluid.

Fig. 2. (A) Benign cystic lumen lined by mixed columnar (solid arrow), transitional (open arrow) and mucinous epithelium (arrowhead) (H&E, ×400). (B) Squamous epithelium (arrowhead) and focal smooth muscle layer (asterisk) without serosa and nerve plexus (H&E, ×200).

by keratinizing squamous, transitional, columnar and mucinous epithelium, covering partial smooth muscle layer without serosa and nerve plexus (Fig. 2). Evidence of chronic inflammation like granulation tissue, inflammatory cell infiltration and foreign body was not discovered. Bowel epithelial structures like villi or crypts were absent. Also, there was no evidence of malignancy in the cyst. In this case, relatively well-demarcated subcutaneous growing mass without a specific symptom is noted on the coccygeal region. The imaging examination shows a cystic mass enclosing hypoechoic material, which turn out to be sesame crunch colored fluid. After excision, its histopathologic finding reveals that this cystic lesion is lined by various types of epithelium without inflammation. Based on these finding, this presenting patient's condition was diagnosed as tailgut cyst.

Herein, authors report this case of a tailgut cyst presented as a subcutaneous mass at the coccygeal area. Rarity of this disease and its extraordinary manifestation makes it

difficult to diagnosis tailgut cyst. But considering its malignant transformation potential and complications, taking it into account is important in differential diagnosis.

REFERENCES

1. Hjerstad BM, Helwig EB. Tailgut cysts. Report of 53 cases. *Am J Clin Pathol* 1988;89:139-147.
2. Gönül II, Bağlan T, Pala I, Menteş B. Tailgut cysts: diagnostic challenge for both pathologists and clinicians. *Int J Colorectal Dis* 2007;22:1283-1285.
3. Chintapatla S, Safarani N, Kumar S, Haboubi N. Sacrococcygeal pilonidal sinus: historical review, pathological insight and surgical options. *Tech Coloproctol* 2003;7:3-8.
4. Kang SW, Kim NK, Baik SH, Lee KY, Sohn SK, Cho CH. Adenocarcinoma arising from tailgut cyst. *J Korean Surg Soc* 2005;68:342-345.
5. Lee CM, Lee SH, Jeon CW, Ahn BK, Baek SU. Carcinoid tumor arising within a tailgut cyst: a case report. *J Korean Soc Coloproctol* 2007;23:65-67.