

Clinical diagnosis

Case 348

3. Pilonidal sinus

[Progress]

He received incision drainage. He was scheduled to take radical resection of the lesion.

[Discussion]

Pilonidal cyst or sinus is formed first by body hair entering in hair pore. Hair usually adheres bacillus. Then, it causes foreign body response and infection. Because pilonidal sinus often occurs in a soldier with dark body hair sitting in jeep for long time, it is called Jeep disease in USA (1-3). At sitting position, body weight compress midline of tail bone, namely the top of the buttock cleft. Body hair tip at the position enter the other hair pole, inducing formation of inflammatory sinus (1-3). It sometimes turns into abscess with fistula (4-6). In or case, he was a farmer with black body hair and often had a chance of working to sit on the hard plate.

There are three interested lesions at skin: pilonidal sinus, epidermal cyst and Paget disease. Skin composes of epidermis, dermis, and subcutaneous tissue.

Epidermal cyst occurs occlusion of sebaceous gland, inducing of accumulation of sebaceous substance, keratin. CT values of keratin are around 0, almost the same CT values as water. Further, keratin accumulation causes disorder of water molecules diffusion. Then, ADC values of keratin accumulation below 0.5 to 0.9 (7-9). ADC values of skin cancer with squamous cell carcinoma are around 0.7 to 1.0. ADC values of benign subcutaneous tumor such as neurinoma, fibroma, and hemangioma are 1.2 or greater (7-9).

Paget disease arise from epidermis. In epidermis, five kinds of cells in epidermis, including keratinocytes (squamous cells), melanocytes, dendritic cells, nerve ending cells (Merkel cells = tactile cells), and stem cells. Of these, keratinocytes occupy epidermis most. Paget disease is reported not to arise from these five epidermis cells (9,10). Sweat gland, sweat gland duct, and hair follicle exist in dermis whose sweat and hair pass through epidermis to skin surface. Paget disease is thought to arise from sweat gland tubules in epidermis (9,10). It often emerges mammary papilla, mammary areola, anus, genital, and axilla containing full of sweat glands. Paget disease at breast is included in category of breast cancer. Extra breast Paget disease occurs often in aged persons of 60 or older (10). When skin lesions are demonstrated at axilla, anus, and genital, Paget disease, epidermal cyst should be listed, and when skin lesion are done at anus, Paget disease, epidermal cyst and pilonidal cyst should be listed.

[Summary]

We presented a thirty-two-year-old male for painful tail bone and high fever. Medical findings revealed subcutaneous abscess at the top of buttock cleft with drain pus and stink which was diagnosed with pilonidal sinus. It is borne in mind that pilonidal sinus arises from a characteristic site, top of the buttock cleft in a person with black bone hair. Epidermal cyst occurs after occlusion of sebaceous gland duct, accumulating keratin of CT values around 0 and MRIADC values of less than 0.8 Or less. Paget disease is a epidermal cancer arisen from sweat gland duct. Then, it occurs at mammary papilla, mammary areola, axilla, anus, and genital, being filled with sweat glands.

[References]

- 1.da Silva JH. Pilonidal cyst: cause and treatment. *Dis Colon Rectum*. 2000 Aug;43(8):1146-56.
- 2.PATEY DH, SCARFF RW. Pathology of postanal pilonidal sinus; its bearing on treatment. *Lancet*. 1946 Oct 05;2(6423):484-6.
- 3.KING ES. The nature of the pilonidal sinus. *Aust N Z J Surg*. 1947 Jan;16(3):182-92. [PubMed]
- 4.Karydakis GE. Easy and successful treatment of pilonidal sinus after explanation of its causative process. *Aust N Z J Surg*. 1992 May;62(5):385-9. [PubMed]
- 5.Søndenaa K, et al. Patient characteristics and symptoms in chronic pilonidal sinus disease. *Int J Colorectal Dis*. 1995;10(1):39-42. [PubMed]
- 6.Johnson EK, et al, Clinical Practice Guidelines Committee of the American Society of Colon and Rectal Surgeons. The American Society of Colon and Rectal Surgeons' Clinical Practice Guidelines for the Management of Pilonidal Disease. *Dis Colon Rectum*. 2019 Feb;62(2):146-157.
- 7.Shibata T, et al. Magnetic resonance imaging features of epidermoid cyst in the extremities. *Arch Orthop Trauma Surg* 2003; 123:239-241
- 8.Sundaram M, et al. High signal intensity soft tissue masses on T1 weighted pulsing sequences. *Skeletal Radiol* 1987; 16:30-36
- 9.Fujimoto H, et al. Large epidermal cyst involving the ischiorectal fossa: MR demonstration. *Clin Imaging* 1993; 17:146-148
- 10.Lloyd J, Flanagan AM (October 2000). "Mammary and extramammary Paget's disease". *Journal of Clinical Pathology*. 53 (10): 742–749.
- 11.Fukuda K, Funakoshi T (2018-02-16). "Metastatic Extramammary Paget's Disease: Pathogenesis and Novel Therapeutic Approach". *Frontiers in Oncology*. 8:

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