




References

1. Gu X, Han L, Chen J, Wang J, Hao X, Zhang Y, et al. Antenatal screening, and diagnosis of tuberous sclerosis complex by fetal echocardiography and targeted genomic sequencing. *Medicine (Baltimore)*. 2018;97:e0112.
2. Pasieczna M, Kolesnik A, Królicki L, Duczkowski M, Bekiesinska-Figatowska M, Szymkiewicz-Dangel J. Fetal echocardiography gives a clue for the maternal diagnosis of tuberous sclerosis complex. *J Clin Ultrasound*. 2019;1–3.
3. Hinton RB, Prakash A, Romp RL, Krueger DA, Knilans TK, International Tuberous Sclerosis Consensus Group. Cardiovascular manifestations of tuberous sclerosis complex and summary of the revised diagnostic criteria and surveillance and management recommendations from the International Tuberous Sclerosis Consensus Group. *J Am Heart Assoc*. 2014;3:e001493.
4. Ozeren S, Cakiroglu Y, Doger E, Caliskan E. Sonographic diagnosis of fetal cardiac rhabdomyomas in two successive pregnancies in a woman with tuberous sclerosis. *J Clin Ultrasound*. 2012;40:179–82.
5. Pipitone S, Mongioli M, Grillo R, Gagliano S, Sperandeo V. Cardiac rhabdomyoma in intrauterine life: clinical features and natural history. A case series and review of published reports. *Ital Heart J*. 2002;3:48–52.

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Case for diagnosis. Multiple nodules on the scrotum: verruciform xanthomas[☆]



Dear Editor,

An 83-year-old male visited us complaining of multiple nodules on the scrotum that first appeared 20 years previously. They had been increasing in size and recently started to bleed easily. Physical examination revealed 2 exophytic and pedunculated red nodules sized 25 × 25 mm and 13 × 13 mm, which protruded from both sides of the scrotum (Fig. 1). He has a history of prostate cancer, obstructive hypertrophic cardiomyopathy, aortic regurgitation, chronic atrial fibrillation, chronic renal failure, and submucosal tumors of the esophagus. A biopsy specimen showed upwardly protruding tumors with acanthosis and papillomatosis (Fig. 2). The dermal papillae were covered by numerous foamy histiocytes and hyperplasia of capillaries (Fig. 3). The foamy cells were positive for Periodic Acid Schiff and CD68 antigen (Fig. 4).

What is your diagnosis?

- a) Viral wart;
- b) Condyloma acuminatum;
- c) Verruciform xanthoma;
- d) Adult xanthogranuloma.

Discussion

From the histopathological findings, the nodules were diagnosed as Verruciform Xanthoma (VX). Xanthogranuloma was excluded because Touton-type giant cells were not observed. Both of the nodules were surgically removed, and they showed the same histopathological fea-

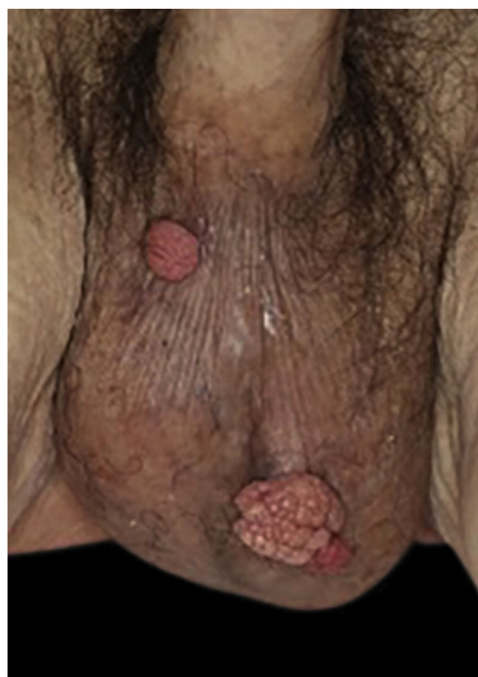


Figure 1 Well-circumscribed, exophytic and pedunculated nodules on the scrotum

[☆] Study conducted at the Department of Dermatology, Fukushima Medical University, Fukushima, Japan.

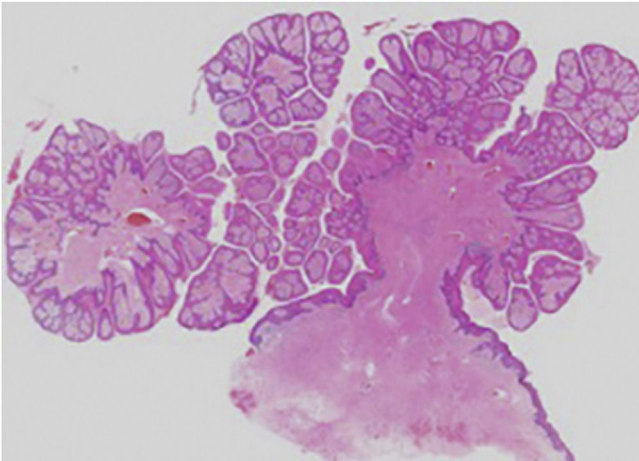


Figure 2 Histopathological findings showed upwardly protruding tumors with acanthosis and papillomatosis

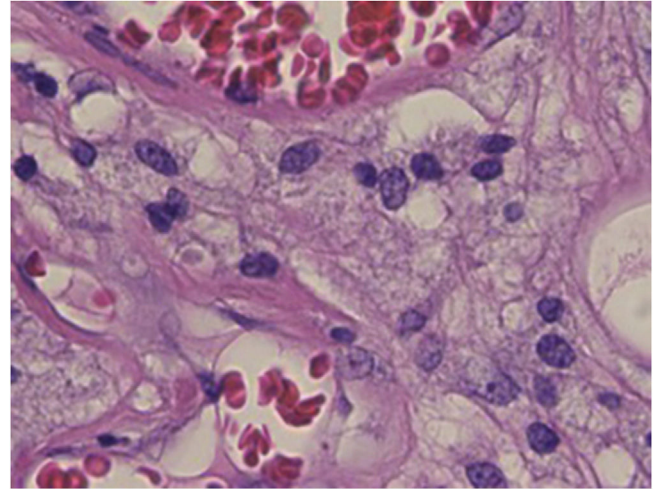


Figure 3 Detail of histopathology: The dermal papillae are covered by numerous foamy histiocytes with increased number of capillaries

tures. No recurrence had been observed during 1-year follow-up.

VX occurs mostly in the oral cavity¹; however, the genital area has also been involved (verruciform genital-associated xanthoma).² Clinically, VXs have a similar appearance to condyloma acuminatum or verruca vulgaris. The histopathological examination demonstrated verrucous hyperplasia of the epidermis and a variable number of foamy cells within the dermal papillae. As far as we reviewed, only 6 cases of multiple VXs on the genital area have been reported including the present case (Table 1).³⁻⁷ Those 6 cases consisted of 4 males and 2 females, and the mean age was 53 years old (range 29–83 years). The size of the lesions ranged from 3 to 25 mm. The number of nodule was 2 in our case, whereas numerous nodules were observed in 1 case.³ Pruritus was observed in 2 cases, whereas others were asymptomatic. In 1 case, VX occurred at the site of the skin graft due to necrotizing fasciitis.⁵

Although the cause of VX is unknown, Zegarelli et al. suggested that VX results from degenerative changes in the epidermis with a subsequent nonspecific histiocytic

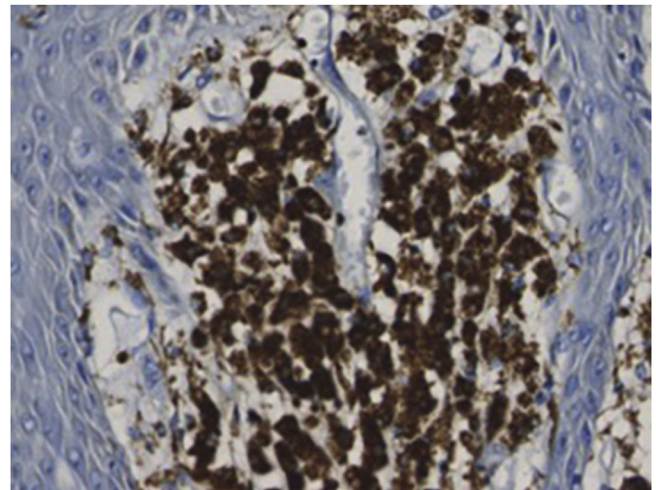


Figure 4 Foamy macrophages in the papillary dermis showing CD68 positivity

Table 1 Reports focusing on verruciform xanthoma in multiple sites on the genital area

Patients	Age/Gen	Duration of illness	Clinical hypothesis	Size (mm)	Location	Symptoms	Progress	Trigger	HPV
1 ³	29F	17-yr	Condyloma	ND	Vulva	None	Not change	ND	ND
2 ⁴	42F	20-yr	ND	3 to 25	Vulva	ND	Increasing	ND	Negative
3 ⁵	38M	2.5-mo	Necrotizing fasciitis	8 × 5	Penis and perineum	None	Enlarging	Skin grafting	ND
4 ⁶	63M	4-yr	Condyloma	10 to 15	Scrotum	Pruritic	Increasing	ND	ND
5 ⁷	67M	4-yr	ND	25	Scrotum	ND	Increasing	ND	HPV 6a
Our case	83M	20-yr	Condyloma	13 to 25	Scrotum	Pruritic	Increasing/bleeding	External factor	Negative

ND, Not Described.

response.⁸ The damage to the epithelium could trigger the following cascade: 1) Entrapment of epithelial cells in the papillary dermis, 2) Subsequent degeneration of these cells and lipid formation, 3) Engulfment of released lipids by macrophages, and 4) Accumulation of foam cells between the rete ridges. On the other hand, it was speculated that the Human Papillomavirus (HPV) was involved in the pathogenesis of VX. Khaskhely et al. reported VX in which HPV type 6a DNA was detected in the lesional tissues by Polymerase Chain Reaction (PCR) and sequence analysis.⁷ By contrast, another study examined HPV types 6, 11, 16, 18, 31, 33, and 35 by PCR, which were all negative.⁹ In the present case, PCR amplification of HPV including serotypes 6, 11, 16, 18, 31, 33, 35, 52b, and 58 was performed, with all negative results. Therefore, further studies of the etiology of VX are necessary.

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Authors' contributions

Natsuko Matsumura: Collection, analysis, and interpretation of data; drafting and editing of the manuscript; critical review of the literature.

Toshiyuki Yamamoto: Design and planning of the study; editing and final approval of the manuscript.

Conflicts of interest

None declared.

References

1. Shafer WG. Verruciform xanthoma. *Oral Surg Oral Med Oral Pathol.* 1971;31:784–9.

2. Stiff KM, Cohen PR. Vegas (Verruciform genital-associated) xanthoma: a comprehensive literature review. *Dermatol Ther.* 2017;7:65–79.
3. Santa Cruz DJ, Martin SA. Verruciform xanthoma of the vulva. *Am J Clin Pathol.* 1979;71:224–8.
4. Sopena J, Gamo R, Iglesias L, Rodriguez-Peralto JL. Disseminated verruciform xanthoma. *Br J Dermatol.* 2004;151:717–9.
5. Cumberland L, Dana A, Resh B, Fitzpatrick J, Goldenberg G. Verruciform xanthoma in the setting of cutaneous trauma and chronic inflammation: report of a patient and a brief review of the literature. *J Cutan Pathol.* 2010;37:895–900.
6. Joo J, Fung MA, Jagdeo J. Successful treatment of scrotal verruciform xanthoma with shave debulking and fractionated carbon dioxide laser therapy. *Dermatol Surg.* 2014;40:214–7.
7. Khaskhely NM, Uezato H, Kamiyama T, Maruno M, Kariya KI, Oshiro M, et al. Association of human papillomavirus type 6 with a verruciform xanthoma. *Am J Dermatopathol.* 2000;22:447–52.
8. Zegarelli DJ, Aegarelli-Schmidt EC, Zegalli EV. Verruciform xanthoma: a clinical, light microscopic, and electron microscopic study of two cases. *Oral Surg Oral Med Oral Pathol.* 1974;38:725–34.
9. Agarwal-Antal N, Zimmermann J, Scholz T, Noyes, Leachman SA. A giant verruciform xanthoma. *J Cutan Pathol.* 2002;29:119–24.

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Case for diagnosis. Unilateral nodule on the nipple: erosive adenomatosis of the nipple[☆]



Dear Editor,

A 44-year-old Hispanic woman came to our dermatology clinic with an asymptomatic exophytic lesion on her right nipple that had been present for two years. There was no family history of breast cancer. The lesion started as a small erythematous plaque that gradually grew and developed a focal erosion. On dermatological examination, a 1.0 × 1.0 cm hard erythematous ill-defined lesion with a central erosion was noticed. Dermoscopy showed pink-white clouds and red structureless areas (Fig. 1). There was no lymphadenopathy or nipple retraction.

An incisional biopsy of the right nipple was performed. Histopathology revealed a well-circumscribed dermal tumor with adenomatous and papillary configuration. The tumor consisted of multiple ductal structures lined by a double layer of columnar eosinophilic cells, some of which showed secretion by cell decapitation. A basal layer of myoepithelial cells was present. A ductal opening communicated with the surface epithelium at one end. No cellular atypia or pleomorphism was noticed (Fig. 2).

What is your diagnosis?

- a) Paget's disease of the breast;
- b) Contact dermatitis;
- c) Ductal carcinoma;
- d) Erosive adenomatosis of the nipple.

Discussion

Erosive Adenomatosis of the Nipple (EAN), also known as nipple adenoma, papillary adenoma of the nipple, or florid

[☆] Study conducted at the General Hospital "Dr. Manuel Gea González", Mexico City, Mexico.