



Radical excision of inguinal condyloma acuminatum following 51 years of untreated growth, found to be squamous cell carcinoma

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ARTICLE INFO

Keywords:

Condyloma
HSV
Squamous cell carcinoma
Pathology slides

ABSTRACT

Giant condyloma acuminatum, caused by herpes simplex virus infection, is a large cauliflower shaped lesion that has a propensity to infiltrate surrounding tissues with paradoxically benign microscopic/histological appearance. This lesion is often benign, though it does have the potential for malignant transformation. Here we present a case that demonstrates this potential and describes the pathological and histological findings in detail. The report concludes with the clinical reasoning for considering surgical resection in these patients.

1. Introduction

Condyloma acuminatum is a tumor caused by infection with human papillomavirus (HPV) serotypes 6 and 11. These tumors have been historically understood to be benign growths, typically in the penis and anus regions. However, infection with serotypes 6 and 11 puts an individual at higher risk for infection with serotypes 16, 18, 31, 33 and others which have been linked to squamous cell carcinoma. The mechanism of this malignant transformation relies upon interference with cell cycle checkpoint apparatus at the molecular level.¹ Chronic genital infections, polygamy, and bad genital hygiene are risk factors for developing condyloma acuminata and squamous cell carcinoma of the genitalia.

Giant condyloma acuminatum (GCA), also known as Buschke-Lowenstein tumor, is a large cauliflower shaped lesion that has a propensity to infiltrate surrounding tissues with paradoxically benign microscopic/histological appearance. It has been proposed that this tumor represents an intermediate stage between condyloma acuminatum and verrucous carcinoma.²

2. Case report

Here we describe a case of a 65 year old male with a large left inguinal condyloma acuminatum, as well as a peri-rectal condyloma, that had been growing without treatment since he was 14 years old. The patient reported that he first noticed the lesions after he was sexually

assaulted as a young teenager. He experienced homelessness for three decades and had little access to medical care during that time. Recently he was housed by his sister, who coordinated his current care episodes from 2010 onwards.

In 2013, he presented to the hospital, complaining of rectal discomfort, bleeding, and fecal incontinence. The peri-rectal condyloma was treated with radiation (4500 cGy) and chemotherapy (mitomycin and 5-fluorouracil: the nigro protocol of 2 cycles × 5 days) for symptom management. He completed this therapy with minimal morbidity. The colorectal surgery team offered him definitive surgical treatment of his peri-rectal condyloma, but he was lost to follow up.

He presented to the urology clinic in June 2021 complaining of hematuria. An office cystoscopy revealed brownish discolored raised lesions along the lateral walls of the bladder. Incidentally, a large left inguinal condyloma was noted on exam. He was consented for surgery the next month to biopsy the suspicious bladder lesions as well as to excise the condyloma.

His past medical history is significant for hypertension, rheumatoid arthritis, and benign prostatic hyperplasia. Of note, he was never tested for HIV. His social history is significant for alcohol use disorder, tobacco use disorder, and substance use disorder. In 2019, he followed up for a colonoscopy, which revealed large anal condylomas and a small colon polyp that was benign on biopsy.

On the day of surgery, cystoscopic biopsies were performed of the bladder lesions with pathology showing benign morphology with foci of inflammation and granulation tissue. The inguinal condyloma was then

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<https://doi.org/10.1016/j.eucr.2021.101937>

Received 21 October 2021; Received in revised form 7 November 2021; Accepted 8 November 2021

Available online 9 November 2021

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Fig. 1. Intraoperative pictures showing the condyloma retracted and the margins after excision. The satellite lesion is seen on the scrotum superomedial to the primary lesion.

excised en bloc. A 2nd satellite lesion on the left scrotal wall was similarly excised (See Fig. 1 for intra-operative images).

Pathology from the excised inguinal lesion showed well differentiated squamous cell carcinoma (SCC), arising in a collision condyloma irritated/inflamed seborrheic keratosis (SK) background lesion. Keratin pearls were noted in foci of SCC, as well as squamous eddies and keratin horns (in areas of SK). Ki-67 and p16 immunohistochemistry was performed to aid with diagnosis. Overexpression of these markers is used as a surrogate marker for the presence of high-risk HPV infection.³ The results of this analysis showed focal full thickness scattered Ki-67 nuclei, as well as foci of en block full thickness p16 positivity. The deep and lateral inked (from surgical marking pen) soft tissue edges were negative for dysplasia/neoplasia, suggesting good margins were achieved. However, focal, microscopic/superficial invasion cannot be completely ruled out. The punched-out satellite lesion was found to be pigmented seborrheic keratosis.

The bladder lesions, the initial reason for his surgical consultation, were found to be benign. Extensive urothelial denudation, focal chronic inflammation, and granulation tissue were seen. Focal hemosiderin deposition, suggestive of remote hemorrhage was also present. See Fig. 2 for selected histological images.

3. Discussion

A recent literature review (Ates et al.) found that there are many reports of giant condyloma accuminatum transforming into invasive cancer.⁴ Indeed, Bowen's Disease (squamous cell carcinoma in situ) in general has a 3–5% risk of developing into invasive disease.⁵ This data supports the prompt excision of giant condylomas prophylactically to prevent the onset of invasive disease.

This case is noteworthy because of three simultaneous features: the size of the lesion, its inguinal location, and the long length of growth

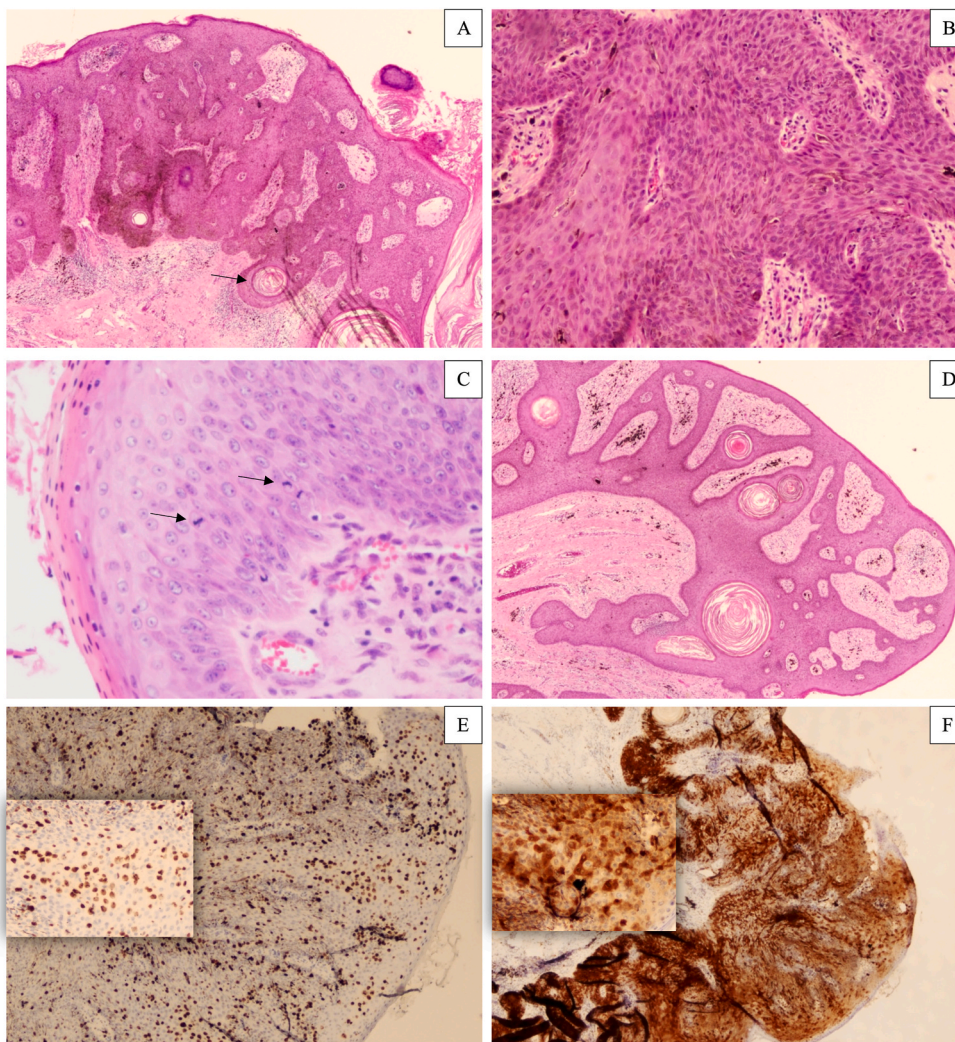


Fig. 2. In situ well differentiated squamous carcinoma, A. Low power view of the lesion, keratin pearl is seen (arrow); B&C. High power view shows increased N/C ratio, pleomorphic epithelial cell with increased mitotic figures (arrow); D. Background of seborrheic keratosis; E. Ki-67 index (proliferation index) reveals focal full thickness staining in the lesion, note that staining pattern is nuclear; F. p16 immunohistochemical stain displays en block full thickness positivity; correlates with oncogenic HPV infection.

time. This patient was lost to follow up due to social determinants of health, including housing and financial insecurity. It is relatively uncommon in modern medicine to witness the natural history of untreated condyloma acuminatum for over 50 years. Although previously thought to be benign, there is mounting evidence for clinically significant rates of malignant transformation.

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