

BRIEF ARTICLE

Verrucous Cyst in a Seven-Year-Old Girl

Ehiaghe Lonia Anaba FWACP, FMCP, MSc^{1,2}, Mumini Wemimo Rasheed FMCPPath, MWACP³

¹ Lagos State University College of Medicine/Clinical Laboratory, Lagos

² Lagos State University Teaching Hospital, Lagos, Nigeria

³ Federal University of Dutse, Jigawa State, Dutse, Nigeria

ABSTRACT

Verrucous cyst is an uncommon manifestation of human papilloma virus infection. Diagnosis is histopathological and characterized by verrucous changes in an epidermal cyst. This is a report of verrucous cyst in a seven-year-old girl who had an asymptomatic nodule on her hand.

INTRODUCTION

Verrucous cysts (VC) are rare and uncommonly documented. They are reported to be epidemoid cysts with viral cytopathic features in keeping with human papilloma virus (HPV) infection.^{1,2} The term VC was coined by Meyer *et al* in 1991 and they referred to it as a new manifestation of HPV infection.² Since then, a search of PUBMED reveals ten more reports of VC.^{1,3-5} VC occurs irrespective of the immune status of the affected individual and it has no age nor gender predilection.^{1,3,4,6} This is a case report of verrucous cyst in a seven-year old girl.

CASE REPORT

This is a report of a seven-year old girl who had a complaint of a nodule on the palmar surface of her left hand. The duration of the nodule was not stated in the clinical history. She had no medical history except for this nodule. A clinical diagnosis of foreign body granuloma was made and an excisional biopsy was ordered. The excised cyst

measured 1x1x0.5cm on gross examination at the laboratory. A diagnosis of verrucous cyst was made. The diagnosis was based on histopathological evaluation of the lesion with H&E staining which showed, massive hyperkeratosis, acanthosis overlying a mid-dermal cyst. The cyst wall was orthokeratotic, papillomatous, acanthotic and composed of keratohyaline containing keratinocytes (**Figure 1**). The cyst contained a proliferation of nodular structures separated by hyaline membrane and each nodule was characterized by squamous eddies with viral cytopathic effect (**Figures 2 and 3**).

DISCUSSION

Verrucous cyst (VC) is a benign relatively uncommon cyst with intracystic features typical of verruca vulgaris.^{1,4} Although, VC occurs mostly in children, any age can be affected.^{1,4,5} There is no gender predilection and it can occur on any anatomical site including the face.^{1,4,5,7} Clinically, VC occurs as a solitary growth like in the index case.¹ It is a Human papilloma virus infection and the serotypes responsible for VC include: types

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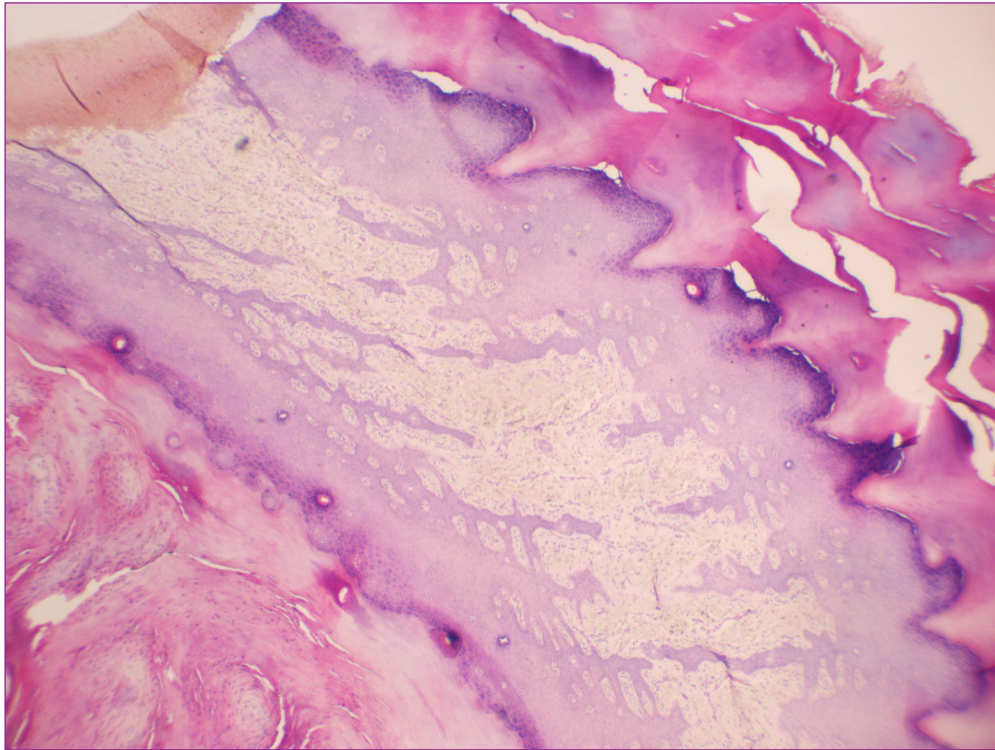


Figure 1. Hyperkeratotic, papillomatous cyst wall. H&E X 20

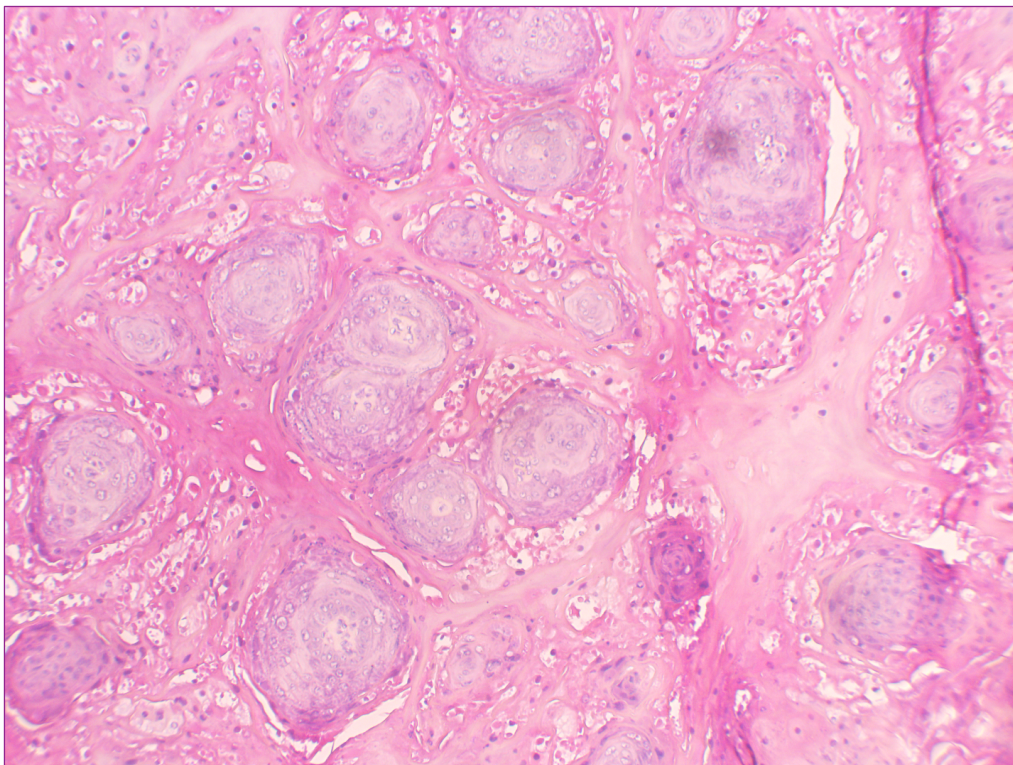


Figure 2. Intracystic nodules separated by eosinophilic stroma. H&E X 20

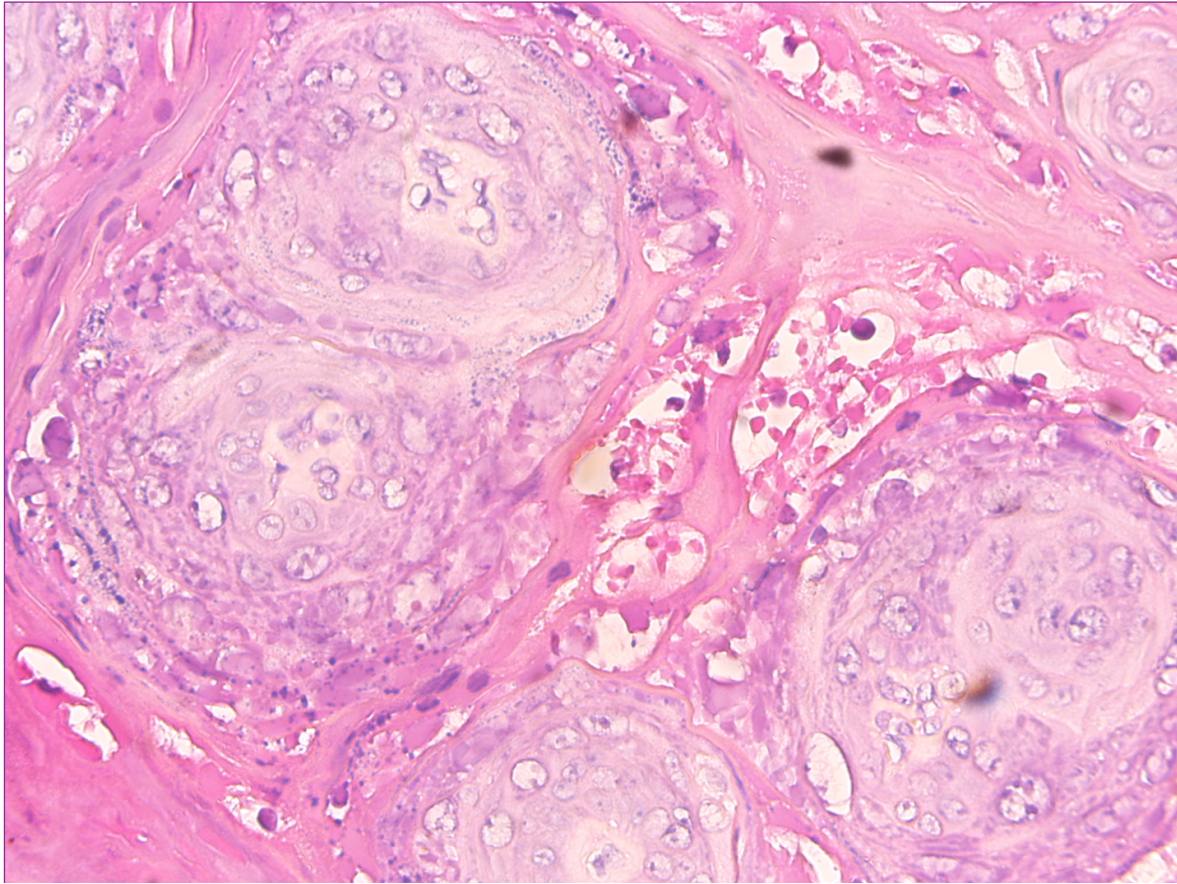


Figure 3. Intracystic nodules showing viral cytopathic effect (Koilocytes). H&E X 40

1, 2, 3, 4, 10, 24, 27, 57, 60, 63 and 65.^{1,3,4,8} Incubation period is documented to be 3 weeks to 8 months.^[3] Clinically, VC has been misdiagnosed as Kaposi sarcoma, epidemoid cyst, basal cell carcinoma and dermatofibroma.^{6,9,10}

Verrucous cyst is a histopathological diagnosis and the term VC was coined by Meyer et al.² Histopathologically, VC appears as a wart (*verruca vulgaris*) invaginated into an epidermoid cyst.^{1,2,6,9} The cyst wall is lined by stratified squamous epithelium, is papillomatosis, shows ortho and parakeratosis, hypergranulosis. Within the cyst, squamous eddies and viral cytopathic effect on the keratinocytes (koilocytes) is seen.^{1,2,6,9,10} These histopathological features were reported in the nodule from the index patient. Verrucous change is proposed to be either superimposed on an infundibular cyst or it is the trigger for an infundibular cyst.^{9,11} In addition, sebaceous and melanocytic differentiation have been reported in VC.⁴ These epidermal differentiations in addition to the common connection of VC to the epidermis and the formation of squamous eddies is attributed to the follicular origin of VC.^{4,11} Also, squamous cell carcinoma has been reported to arise from a VC and this is irrespective of the duration of the VC.^{5,12} Treatment of VC is usually by complete excision.

This case report is similar to that already documented in literature. Our patient is of the pediatric age, presented with a solitary asymptomatic growth.^{1,2} The histopathology of the excised cyst was typical of what had been documented in literature by Meyer *et al* who coined the phrase verrucous cyst.²

This report is limited by the inability to perform immunohistochemistry and polymerase chain reaction (PCR) tests for confirmation and serotyping of the HPV for,

financial reasons and unavailability at the facility. This case report was written to draw attention to this rare manifestation of human papilloma virus infection.

Conflict of Interest Disclosures: None

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Corresponding Author:

Ehiaghe L Anaba
Lagos State University College of Medicine Medicine/
Lagos State University Teaching Hospital, Lagos,
Nigeria, 1-5 Oba Akinjobi Way, Ikeja, Lagos, Nigeria.
Phone: +2348030495911
Email: ehianaba@yahoo.com

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