

Acrochordon infected with human papilloma virus

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Abstract :

Acrochordon or skin tags have an incidence of 46% in the general population and known to develop in friction prone areas. Many studies have proved an association between skin tags and human papilloma virus (HPV) 6 and 11. HPV is a epitheliotropic DNA virus which infects basal keratinocytes and replicates in differentiated cells producing cytopathic effects. We report skin tag with associated HPV infection in a 35 year old female who had multiple swellings on the body of several months duration. She visited a doctor, as there was severe acute pain and enlargement of one of the swelling on the chest wall. Histologically it was a fibroepithelial polyp with overlying epidermis showing vacuolations and presence of cytoplasmic inclusions suggestive of HPV infection. In places where PCR is not available, histopathology still remains the gold standard for identification of HPV infection.

Key words: Acrochordon, skin tags, Human papilloma virus, cytopathic effects.

Introduction:

Acrochordon is synonymous with skin tag, soft fibroma and fibroepithelial polyp.¹ Acrochordons have been reported to have an incidence of 46% in the general population.² They are known to be more common after the age of 40 years.³ They are known to develop in friction prone areas, more commonly seen on the neck, axilla, eyelids and upper trunk.¹ 20% of lesions are mainly caused by skin rubbing against some ornaments and clothings.⁴ They can manifest clinically as three types: multiple small papules, single or multiple filiform growths or solitary bag-like pedunculated growths.^{1,2} Histologically, acrochordon is a polypoid lesion with overlying mildly acanthotic epidermis with a loose, edematous fibrovascular core, adipose tissue and mild chronic inflammation.¹

Various studies have uncovered a high association between acrochordon and Human Papilloma Virus (HPV) 6 and 11 suggesting the role of HPV in the pathogenesis.^{5,6,7} In 1998 Dianzani et al were able to detect HPV DNA in 88% of acrochordon by Polymerase Chain Reaction (PCR) technique.⁶ There is a suggested statistical relationship between skin tags and type 2 diabetes mellitus³, acromegaly, colonic polyps and crohn's disease.⁷

HPV is a epitheliotropic double stranded DNA virus which produces cytopathic effects in infected keratinocytes.⁸ Epithelial hyperplasia, papillomatosis, hyperkeratosis and koilocytic change are regarded as

cytopathic effects of HPV.⁹ HPV replicate in infected keratinocytes and produce nuclear and cytoplasmic inclusions, the appearance and number of inclusion bodies vary between different HPV types.¹⁰

Case Report:

A 35 year old female presented with complaints of acute severe pain and sudden increase in size of the swelling on the chest; which was present for a long time. She had multiple small swellings of varying sizes on the body for several years. On examination, the lady was moderately built and nourished. Systemic examination was unremarkable. There were multiple sessile and pedunculated skin covered lesions in the axilla and groin measuring few mmm to 1 cm size. Right inframammary region showed a soft, tender polypoid lesion measuring 2x2cm with twisting of pedicle. Skin over the lesion showed small blebs. With a clinical diagnosis of infected wart, the lesion was excised and sent for histopathology.

Grossly the lesion was globular skin covered soft tissue measuring 2cm in diameter (Fig 1). Skin surface showed tiny cysts. Microscopically it was a polypoidal lesion composed of superficial congested edematous fibrous stroma, chronic inflammatory infiltrate and adipose tissue deeper down with overlying epidermis showing moderate acanthosis, papillomatosis, basket weave type of hyperkeratosis. There was extensive koilocytic change in squamous cells with presence of multiple eosinophilic homogenous irregular intracytoplasmic inclusions. The features were suggestive of fibroepithelial polyp (acrochordon) with cytopathic effects of HPV (Fig 1-3).

Discussion:

Skin tags are single or multiple asymptomatic lesions and are usually excised for cosmetic reasons or may

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become cause of concern because of pain induced by torsion of pedicle as in this case. Our patient was immune competent, not a known diabetic and there was no other systemic disease.

Skin tags are known to develop in areas of skin friction, leading to disruption of skin, which might serve as a route of entry for the virus. The presence of HPV DNA and mechanical friction seem to be significant cofactors in the pathogenesis of skin tags. HPV is epitheliotropic and it has been recognized that HPV following trauma of epithelium establishes a nonproductive infection of basal cells in the skin and mucosa, but it is only in the differentiated epithelium that HPV replicates. The immune status and genetic profile of the host, as well as the type of virus, may play a role in determining the clinical outcome of HPV infection.¹

Dianzani in 1998 has reported presence of HPV 6,11 DNA in skin tags in 88% of Caucasian patients.⁶ Al Shaiji A et al detected 77% of skin tags with HPV with no significant correlation with sex and location with a mean age of 40 years.⁷ Mohamed A Sallan et al⁵ and Gupta S et al¹ have found HPV DNA positivity in 76.6% and 48.6% of lesional skin tags respectively. The expression of early viral genes may contribute to epithelial cell proliferation overlying edematous fibrovascular stroma.^{1,5}

Moreover, in a study done by Asteri et al, they were able to detect HPV DNA in 35% of normal skin samples suggesting that HPV DNA may be widely distributed in normal skin of immune-competent individuals in whom intact immune system inhibits the development of disease.⁵ HPV induced skin tags could be responsible for their recurrence.³

In the present case the cytopathic effects of HPV that is acanthosis, papillomatosis, koilocytosis and presence of intracytoplasmic inclusions were suggestive of HPV infection. In places where PCR is not available, histopathology still remains the gold standard for identification of HPV infection.

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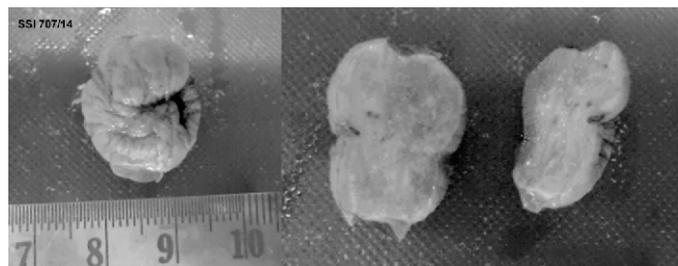


Fig 1: Globular skin covered mass with grey white to grey brown cut surface

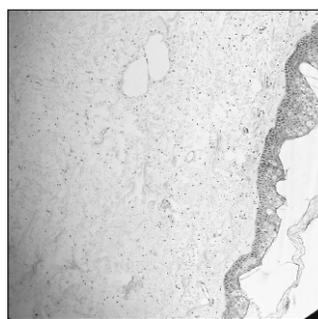


Fig 2

Fig 2: Polypoidal lesion with congested edematous fibrous stroma lined by epidermis. H&E low power

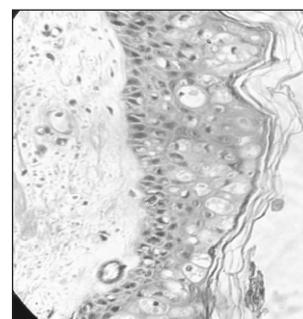


Fig 3

Fig 3: Epidermis showing acanthosis, hyperkeratosis, koilocytic change and intracytoplasmic eosinophilic inclusions. H&E High power.

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