

PACINIAN CORPUSCLE NEUROMA- A RARE ENTITY (CASE REPORT)

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ABSTRACT

The authors discuss an interesting case of a Pacinian corpuscle neuroma in the palm of a young woman who presented with severe pain. The clinical signs were very subtle. The patient had complete pain relief following excision of the tumour. Pacinian corpuscle neuromas are rare, with only about 70 cases reported in the literature. The histology, presenting features and associated conditions are discussed in detail. In addition to a neuroma or glomus tumour, Pacinian corpuscle hyperplasia should be considered in the differential diagnosis of digital or palmar pain of unknown etiology.

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INTRODUCTION

Pacinian corpuscle neuroma, also known as Pacinian corpuscle hyperplasia, results from hypertrophy or hyperplasia of pacinian corpuscles. Pacinian corpuscles are mechanoreceptors distributed in the dermis and act as pressure receptor that responds to high-frequency vibratory stimuli. The corpuscle consists of a single nerve fibre, the terminal region of which is enclosed in a multilaminated connective tissue capsule. There are approximately 300 Pacinian corpuscles in the hand. They are distributed in fingers (60%), near the metacarpophalangeal joints (25% to 48%) and in the thenar and hypothenar regions (8% to 18%).^{1,2}

Pacinian “neuromas” (hyperplasia) are rare lesions of unknown aetiology. In 1998, Reznik *et al* were able to review 29 reported cases in the hand and added a further two cases of their own^{3,4,5}. We present an interesting case of a woman with Pacinian corpuscle neuroma of the palm.

Case

An 22-year-old woman presented with severe pain in her right thumb of three months duration. On Inspection there was a small bulge at the thenar eminence. Palpation of this area elicited the same symptomatic pain experienced by the patient. The movements of the thumb were not affected. No discolouration of skin was noticed over the bulge. Clinical diagnosis of a schwannoma or neuroma of the digital nerve was made and exploration was planned.

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In the subcutaneous plane, a multinodular whitish firm mass measuring 0.6x0.5 with shiny clusters of Pacinian corpuscles was found. Microscopic examination revealed mature Pacinian corpuscles that were increased in size and number associated with degenerative changes and fibrosis of the adjacent tissues and the case was reported as Pacinian corpuscle neuroma.

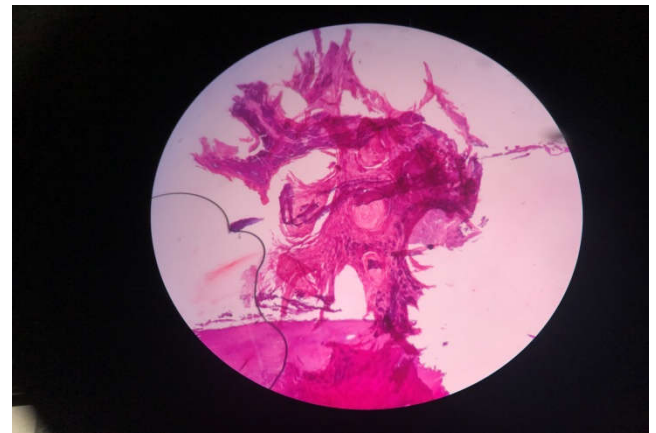


Figure 1 showing pacinian corpuscle neuroma

DISCUSSION

Pacinian Neuroma is an uncommon tumor that is caused by multiple, repeated trauma. The condition is thought to be an abnormal response to repeat trauma/injury, causing the Pacinian corpuscles to become large, resulting in the formation of a benign tumor or neuroma. In this condition, painful lesions form on the hand (predominantly affecting the fingers), foot, or even the vulva (external opening of the vagina) Since the condition can be caused by repeated trauma that may occur at the workplace, Pacinian Neuromas may be considered as

work-type injuries or conditions (occupational injury). A simple surgical excision is considered to be curative. The prognosis for Pacinian Neuroma is usually excellent with suitable treatment. Pacinian Neuroma can affect individuals of any age, though it is mostly observed in middle-aged adults. Both males and females and Individuals of all racial and ethnic background can be affected. Worldwide, no geographical localization has been reported. Glomus tumor, Arteriovenous anastomosis malformation and repeated trauma to the feet increase ones chances of getting a condition compared to an individual without the risk factors. Some risk factors are more important than others. The tumors occur as a firm nodule in the region of the trauma and can be up to 1.5 cm in size (along its maximum dimension). These are painful, when they are touched or when pressure is applied on them. Sometimes, the pain may persist, even if there is no pressure applied at the tumor site. A diagnosis of Pacinian Neuroma involves a thorough physical examination, correlated with a complete medical history (including work history, such as nature of job), followed by the pathological examination of the biopsy which shows characteristic histological findings, when examined by a pathologist under a microscope. Special techniques, such as immunohistochemistry stains, may be used to arrive at a diagnosis.⁶

A limited number of cases of Pacinian neuroma have been reported around the world, suggesting that this condition may be neglected. Recently, work-related conditions are gaining attention and this rare feature appears to be strongly related to work or repetitive trauma. Herein, suggest that Pacinian neuroma should be considered in the clinically differential diagnosis of a tender papule in the palm, especially when a patient has a history of repetitive trauma at the lesion site.⁷

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