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Idiopathic Calcinosis Cutis in Two Females with Many Hand Swellings

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ABSTRACT:-

A extremely uncommon condition known as calcinosis cutis is characterized by calcium deposits in the skin and subcutaneous tissue. Rarely has idiopathic calcinosis cutis been documented in the literature. In the cases recounted here, two healthy females in their 40s and 55s presented with many asymptomatic hard nodules on the tips of their palms. The diagnosis of idiopathic calcinosis cutis was confirmed by thorough blood investigations, radiographic tests, and histopathological analysis.

Keywords: Two females, idiopathic calcinosis cutis, idiopathic.

INTRODUCTION: -

A disorder known as calcinosis cutis is characterized by an abnormal accumulation of calcium salt, more especially calcium phosphate, in the skin. Virchow was the first person to identify the pathophysiology of this aberrant situation all the way back in 1855. There are five different subtypes of calcinosis cutis that are distinguished by the underlying cause: dystrophic, idiopathic, metastatic, iatrogenic, and calciphylaxis [1].

Idiopathic calcinosis cutis is the rarest form of the condition because it is linked with a normal calcium metabolism and does not result from any damage to the tissue. There are several different types of idiopathic calcinosis cutis [2], such as idiopathic calcification of the scrotum and subepidermal calcified nodule. According to the findings of our study, a woman in her forties who was diagnosed with an extremely unusual form of idiopathic calcinosis cut presented with yellowish-white swelling that affected many fingertips.

Case Presentation

A woman who was 40 years old and had no substantial prior medical history presented with the chief complaint of several whitish-yellow swellings over her fingertips over the past two months. Both her family history and her social history were unimportant. Upon clinical examination, it was discovered that she had several papulo-nodular swellings that had the appearance of being firm to hard and whitish-yellow in color all over the pulp of the thumb, index, middle, and little finger on the left hand. Taking into account the indications and

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symptoms, as well as how they correlate clinically, the differential diagnosis of gouty tophi and calcinosis cutis came into play. Her radiograph of the bilateral hand revealed many, heterogeneous calcified soft tissue in the finger pads, which is suggestive of calcinosis cutis. This was discovered during additional evaluation. We began conducting additional research, and the results of all of her usual blood investigations came back normal. These tests included evaluations of her liver function and renal function, as well as evaluations of her serum electrolytes, C-reactive protein, and erythrocyte sedimentation rate. The levels of parathyroid hormone, serum calcium, and phosphate, as well as uric acid, vitamin D3, and thyroid function, were all within the normal range. The patient's financial situation prevents the completion of the diagnostic workup for connective tissue disorders. [Cause and effect] Our patient gave their consent to get a skin biopsy. The reports from the histopathology were very helpful to us in reaching the diagnosis. Following the elimination of possible metabolic reasons, autoimmune illnesses, and malignant conditions, we arrived at the conclusion that the patient had idiopathic calcinosis cutis. Another patient, this one a 55-year-old woman, presented with the same complaints of swelling around the tip of her finger. The patient had a serum calcium level of less than 8.0 ng/ml, and all other aspects of their investigation were normal. Only with a thorough history, clinical examination, some fundamental hematological studies, and an X-ray can a diagnosis be made. We are able to reach the conclusion that the condition is calcinosis cutis. To evaluate the efficacy of Diltiazem, we will now begin treatment with a steroid or warfarin in the second patient while continuing treatment with the first patient.

DISCUSSION :-

The accumulation of calcium salts that are insoluble in the subcutaneous and cutaneous tissue is the defining feature of calcinosis cutis. Calcinosis can be the result of a variety of factors, including localized trauma, inflammation (such as that caused by acne or bug bites), infections, tumors (both malignant and benign), diseases of connective tissue, and more. Varicose veins, Both hypercalcemia and hyperphosphatemia are present. Systemic sclerosis is linked to the skin condition known as calcinosis cutis.

The records do not contain any information regarding the prevalence of calcinosis cutis. It is more prevalent among people of African descent who are middle-aged, and there is no difference between the sexes [3]. Calcinosis cutis comes in a variety of subtypes, the most prevalent of which is dystrophic calcification, which is linked to underlying tissue injury. Many different connective tissue disorders, such as scleroderma, dermatomyositis, and systemic lupus erythematosus, as well as mixed connective tissue condition, are characterized by the presence of dystrophic calcification. In extremely rare cases, patients with Werner syndrome, Ehlers-Danlos syndrome, panniculitis, basal cell carcinoma, or cysticercosis may exhibit dystrophic calcification.

Patients who have an aberrant calcium/phosphate metabolism are more likely to develop metastatic calcification (chronic kidney disease, hyperparathyroidism, milk-alkali syndrome,

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sarcoidosis and malignant neoplasm). There are a few additional manifestations of calcinosis cutis, including calciphylaxis, iatrogenic, and idiopathic. Calciphylaxis is a type of calcific vasculopathy that affects the tiny and medium-sized vessels that are present in the dermis. This condition is typically linked with patients who have reached the end stage of renal disease.

There are extremely few reported cases of idiopathic calcinosis of the skin [4]. It does not cause any damage to the tissues and does not result in an aberrant calcium or phosphate metabolism. Scrotal calcinosis, familial tumoral calcinosis, and subepidermal calcified nodules are the three subgroups that can be found under the umbrella of idiopathic calcinosis. It is still unknown what underlying pathology is responsible for this aberrant deposition of calcium salts in the skin. According to the hypothesis, an abnormal metabolism of gamma carboxy glutamic acid (GIa) is the cause of abnormal calcium deposition in subcutaneous tissues, and an increased production of GIa is thought to be the cause of soft tissue calcification [5,6] It has also been observed that an abnormal calcification in dermal fibroblast can be caused by a mutation in the gamma-glutamyl carboxylase gene [7].

The treatment for calcinosis cutis is difficult to achieve. The literature describes the limited function that antacids made of aluminum and magnesium, as well as warfarin, diltiazem, bisphosphonates, probenecid, and colchicine, play in the treatment process. There are many different points of view about the use of diltiazem in the treatment of idiopathic calcinosis cutis. Some reports show significant resolution with long-term therapy [8-10]. It is hypothesized that diltiazem, which is a calcium channel blocker, prevents calcium from accumulating in cells by acting as a barrier in this pathway. Ulceration, infection, pain, and impaired function are all reasons to consider surgical excision as a treatment option. Since our patient did not experience any of these issues, we made the decision to continue closely monitoring and following up with the patient.

CONCLUSIONS :-

In conclusion, the findings of our paper demonstrate a very uncommon manifestation of calcinosis cutis. It is important to do a comprehensive evaluation in order to rule out the possibility of anomalies in the metabolism of calcium and phosphate, connective tissue disorders, renal failure, and cancer. Even if the role of medical care is limited in idiopathic calcinosis cutis, individuals who present with aberrant soft tissue calcification should have the possibility of correctable or secondary causes investigated. Diltiazem treatment was shown in several reports to produce encouraging outcomes. As a result, we intend to get started on it. To discover the most effective treatment for calcinosis cutis, additional research is required.

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