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Case Report

Ainhum: A Case Report from Qatar

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Abstract: Ainhum is a constricting band disease of unknown aetiology. It is a rare disease and progressed by constricting fibrotic bands over the digits that may lead to auto amputation. It is classified as pseudoainhum with the known secondary cause or trauma [1]. It is prevalent worldwide but most commonly found in African countries. It is not a usual presentation in Qatar (Middle East), and our patient is ethnically of Indian origin but residing here for the past decade. The case is a unique opportunity that highlights the challenges of early diagnosis and timely treatment to prevent complications such as toes amputation.

Keywords: Ainhum, Dactylolysis Spontanae.

INTRODUCTION

Clarke first described Ainhum in the Gold Coast in 1861 [2]. A few years later, in 1867, da Silva Lima gives it a name in Bahia town of Brazil, which means "to saw or cut [3, 4]".

Ainhum, also known as dactylolysis spontanea, is a dermatological condition involving soft tissue with a progressive constricting ring/band around the fifth toe [1]. Even though it is mainly found in the 5th toe, it can rarely be found in other digits or fingers [5]. The constrictive ring progression ultimately ends with the auto-amputation of the digit.

The exact cause of Ainhum is not known. Barefoot walking has been linked in majority of the cases [6]. There have been some reports of the condition running in the family [7], but Cole [6] doesn't support the theory of familial transmission/tendency after studying fifty-four cases of Ainhum in Nigeria. It needs differentiating from Pseudo-ainhum, where the constrictive band occurs secondary to systemic diseases [1]. Pseudoainhum can be either hereditary like Vohwinkel syndrome or Keratoderma hereditarium mutilans [8], lamellar icthyosis and Pachyonychia congenita. While non hereditary causes include scar formation (frost bite, burn and trauma), vascular reasons (diabetic gangrene, Raynaud disease, linear scleroderma), sensory changes (Hansen's disease, syringomyelia and tertiary syphilis) and systemic sclerosis.

The highest incidence of Ainhum has been reported in Africa and South America, with rare reports from the rest of the world [6].

Ainhum is a clinical diagnosis and does not require biopsies, but if it is done, then it shows dermal fibrosis with longitudinal oriented connective tissues similar to keloid tissue [1].

Patient Information

A Forty-five-year-old lady of Indian origin presented with bilateral little toes pain over the last few months. On presentation, she was struggling to walk. On taking a detailed history, she did not recall any trauma.

She was on levothyroxine 100 mcg for hypothyroidism, and her asthma was well controlled on salbutamol inhalers.

On her initial presentation, she was treated for likely cellulitis with a week course of Cloxacillin 500 mg TID that did not show any improvement.

Gross local examination of her feet was unremarkable, including distal pulses. There were positive findings of oedematous, dark bluish colour

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little toes with constriction at the base. On palpation, both of the little toes were mildly tender.

On her follow-up after a week, when she did not show any signs of improvement, she was referred urgently to the plastic surgeons with a suspected case of Ainhum.

In secondary care, after the necessary investigations (radiographs), she was confirmed with the diagnosis of Ainhum on the right fifth toe and managed surgically.

DISCUSSION

Our patient was a middle-aged lady of an Asian origin and the typical feature of Ainhum. It is a rare condition, but the aspects mentioned earlier helped us to reach the diagnosis.

Careful history taking, examination, and early investigations (imaging) can help our patients to prevent losing their toes.

Four clinical and radiological stages have been characterised [6, 7]. Stage I: "Grooved digit", soft tissue groove starts from medial to lateral with hyperkeratotic debris causing constriction and gives "hourglass" appearance. There is no bone involvement.

Stage II: "Bulbous digit", lymphoedema develops distal to the constriction that laterally rotates the nail. It is a painful condition.

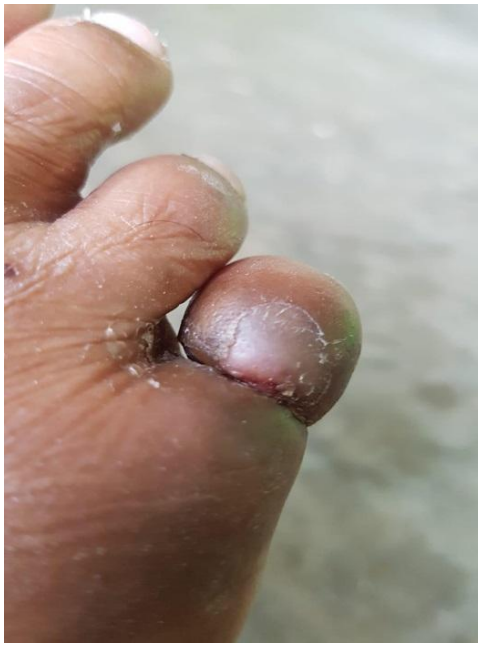

Fig-1: Right fifth toe of the patient showing Stage I-II of Ainhum

Stage III: "Dangling digit", the bone resorption starts medically and eventually fractures with minimal trauma.

Stage IV: "Lost digit", the spontaneous amputation with a small amount of pain and bleeding. The whole process usually takes about 4-5 years, provided no superadded infection can hasten the process in a few months.

The typical appearance of the radiograph shows the radiolucent band constricting at the base of the toe with osteolysis at the distal phalanges [3, 9].

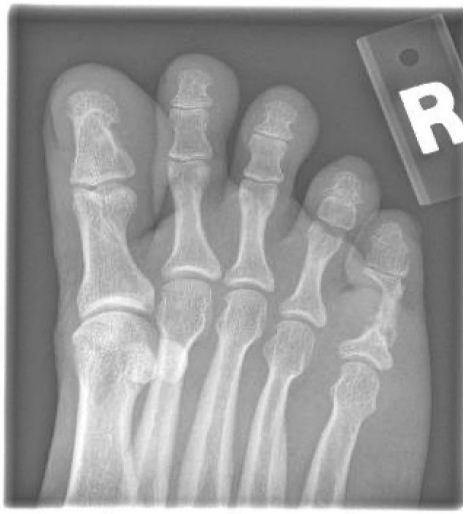

Fig-2: X-ray of the patient showing bony destruction of 5th Phalanx

Stage I and II can benefit from the early intralesional steroid, Z-plasty, resection of the constricting band and further trauma prevention [7]. After the involvement of the bones (Stage III-IV), the prognosis of saving bones becomes poor, and surgical amputation may require alleviating the pain. If left untreated at later stages of ainhum, autoamputation will happen. Superimposed infection and locomotor imbalance may complicate the condition medical care.

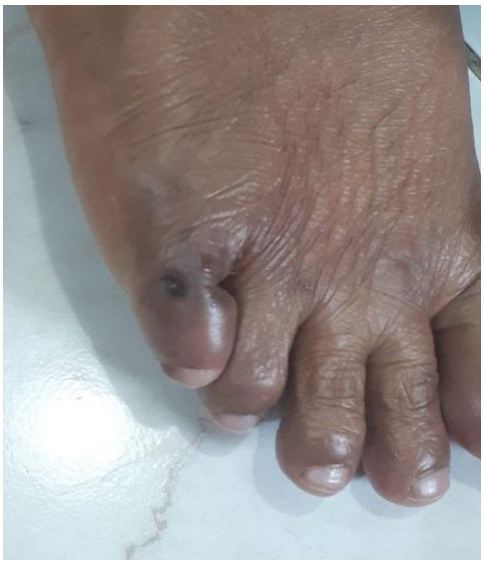

Fig-2: Right fifth toe of the patient recovered after the surgery

The patient has been treated successfully surgically by Z-plasty. She is having regular follow up in the plastic surgery department. Her pain control is on minimal oral analgesia, and with the early diagnosis and intervention, the potential amputation of her fifth digit was reversed.

CONCLUSION

Ainhum is a rare medical condition commonly involving bilateral fifth (5^{th}) toes, with less frequently involving other toes and extremely rare in fingers. Ainhum is mostly reported in African and South American countries, but scattered reports are found all over the world. Obtaining thorough history and performing focal examination can help in early diagnosis and preventing autoamputation. As per the literature review, this is the first case reported in Qatar.

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