



Contents lists available at ScienceDirect

The Egyptian Rheumatologist

journal homepage: www.elsevier.com/locate/ejr

Case reports

Symptomatic accessory navicular bone: A case series

Sahibzada N. Mansoor^a, Farooq A. Rathore^{b,c,d,*}^a Department of Rehabilitation Medicine, Combined Military Hospital, PanoAqil Cantonment, Sind, Pakistan^b Department of Rehabilitation Medicine, PNS Shifa Hospital, Karachi, Pakistan^c Department of Rehabilitation Medicine, Bahria University Medical and Dental College, Bahria University, Karachi, Pakistan^d Faculty of Rehabilitation Medicine, University of Alberta, Edmonton, Canada

ARTICLE INFO

Article history:

Received 30 January 2017

Accepted 2 February 2017

Available online 14 February 2017

Keywords:

Accessory navicular bone

Tarsal bones

Foot pain

Deformity

Pes planus

Case report

ABSTRACT

Introduction: Accessory navicular bone (ANB) is present in 4–20% of the general population. It can cause of midfoot pain and consequently may lead to flat foot. The patient usually presents with pain and swelling on the medial aspect of the foot with difficulty on walking. Diagnosis is often delayed.

Case reports: We report the clinical presentation and outcome of five cases from Pakistan with symptomatic ANB comprised of four males and one female (23–45 years) that were diagnosed after a significant delay. The mean duration of symptoms was one year before final diagnosis. Three cases involved the left foot while 2 were on the right side. Flat foot (pes planus) was present in one case while 2 others had a depressed medial longitudinal arch. Overuse activities including prolonged standing and excessive walking typically precipitated onset of symptoms while the female case was also overweight. Diagnosis was clinically suspected and confirmed by radiological investigations. Three patients were diagnosed with type II ANB and two with type III. Conservative management included RICE (Rest, Ice, Compression and Elevation), non-steroidal anti-inflammatory drugs (NSAIDs), foot orthotics, activity modification, patient education, and foot care. One of the patients further used a POP boot. All cases had a good recovery and were pain free at six months follow up.

Conclusions: Conservative treatment is sufficient for most patients while surgical treatment is usually reserved for those with chronic persistent pain and complications. Early diagnosis and management can halt the progression of ANB to chronic pain and foot deformities.

© 2017 Egyptian Society of Rheumatic Diseases. Publishing services provided by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Accessory navicular bone (ANB) (os navicularum or os tibiale externum) results from developmental variation resulting in secondary ossification centers adjacent to the primary navicular bone. ANB is considered a normal variant and is reported to be present in 4–20% of the general population [1]. This accessory ossicle may appear not worth mentioning, however, due to its unique anatomical position in the foot and the biomechanics of gait it can cause significant pain, morbidity and even deformity leading to flat foot. It is inappropriately diagnosed when evaluating foot pain and often confused with an ankle sprain. Tibialis posterior is a large muscle that assists in plantar flexion of the foot and ankle and locks the tarsal bones during gait. Tibialis posterior tendon has multiple insertions in the foot with the most significant on the medial nav-

icular bone [2]. In advanced cases of symptomatic ANB, damage to the tibialis posterior tendon can occur. There are three types of ANB: type I is a small round ossicle embedded in the tibialis posterior tendon; type II is a relatively large ossification center which is triangular in shape and connected to the navicular by synchondrosis and type III ANB is the enlarged medial horn of the navicular bone [3]. It is rarely observed and of the 3 distinct types of ANB, type III, also known as the cornuate navicular, is an exceptional morphological entity [4].

Acquired flat foot is rare and can be due to neuropathic, degenerative or traumatic causes [5]. ANB can cause foot pain and secondary flat foot. Although ANB is present in 9–20% of population it does not always become symptomatic. Since most patients presenting with this condition are diagnosed with ankle sprain or arthritis, there may be a delay of months to years before a correct diagnosis is made. Overweight individuals and those involved in prolonged standing, walking or other overuse activity are prone to develop a painful symptomatic ANB. ANB can be diagnosed on plain radiographs although computerized tomography (CT) scan and magnetic resonance imaging (MRI) can be helpful in difficult

Peer review under responsibility of Egyptian Society of Rheumatic Diseases.

* Corresponding author at: Department of Rehabilitation Medicine, PNS Shifa Hospital, Karachi, Pakistan.

E-mail address: farooqrathore@gmail.com (F.A. Rathore).<http://dx.doi.org/10.1016/j.ejr.2017.02.003>1110-1164/© 2017 Egyptian Society of Rheumatic Diseases. Publishing services provided by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

cases [6]. Bone scanning is useful for symptomatic ANs with a high negative predictive value [7]. Conservative and surgical medical management options exist. Surgical treatment is usually reserved for active and younger, athletic individuals [8].

The aim of presenting the clinical presentation and outcome of 5 cases with symptomatic ANB is to increase the awareness about it, to emphasize its early and correct diagnosis and to focus attention on this under recognized foot abnormality.

2. Cases reports

Five Pakistani cases with ANB presented to the Rehabilitation Medicine outpatients of Combined Military Hospital, Kohat, Pakistan. All cases gave an informed verbal consent for being included in this study. The study was approved by the local ethical committee and conforms to the Helsinki declaration. Characteristics of the five patient series including clinical features are summarized in Table 1 and the X-ray findings shown in Fig. 1. Further demonstration of the clinical presentations of the first, second and fifth cases are presented below. They were followed-up for a period of 3–6 months.

2.1. Case 1

A 23 year old previously healthy male presented complaining of progressively increasing pain and swelling in his right foot. The pain started after walking for four hours wearing a backpack during a military exercise one year ago. No prior history of trauma, joint pain or unusual exertion was noted. Pain was aggravated with prolonged standing and walking. The patient presented with one-month history of acute exacerbation of his right foot pain. He had been taking non-steroidal anti-inflammatory drugs (NSAIDs) without relief. Examination of the right foot revealed, mild swelling and tenderness on the medial aspect of the right foot and flat foot. X-rays of the foot revealed an accessory navicular bone type II. Baseline investigations including blood complete picture, serum uric acid, erythrocyte sedimentation rate, C-reactive protein, and renal and liver function tests were normal. The patient was advised to avoid prolonged standing and walking and to refrain from wearing tight shoes with hard soles. NSAIDs, medial arch support and silicon insoles were prescribed. The pain and swelling reduced over

the next 3 weeks. He was three monthly followed-up and remained pain free after 6 months.

2.2. Case 2

A 34-year-old previously healthy male soldier presented with an 18 months history of pain and swelling in his right foot. It was aggravated with prolonged standing and walking and improved with rest. The symptoms had increased gradually and had become more frequent. There was no history of trauma or inflammatory disease including rheumatoid arthritis or gout. On examination of the right foot, the medial longitudinal arch was depressed, the foot was pronated, and inverter muscles were weak. He was unable to stand on the toes of his right foot. Local tenderness of the medial aspect of the right foot was noted. X-ray of the right foot showed a type II accessory navicular bone. MRI was done to assess the integrity of the tibialis posterior tendon which was intact; an accessory navicular bone with associated inflammation was confirmed. Rest was recommended with cast immobilization of foot for 4 weeks and subsequent mobilization with medial arch support. The patient used a POP boot. The pain improved on subsequent follow-up with conservative management.

2.3. Case 5

A 42 year old housewife presented with a 6 month history of pain in the medial aspect of her left foot. It was aggravated by prolonged standing and walking. She was overweight. Tenderness on the navicular area with a mildly depressed medial arch compared with the right asymptomatic side. Laboratory investigation with her metabolic and inflammatory profiles were normal. X ray of the left foot revealed a type III accessory navicular bone. The patient improved with conservative management including rest, NSAIDs, medial arch support, and with shoe and activity modification. She was also advised on a weight reduction program. The patient was left to follow-up after six months.

3. Discussion

Symptomatic accessory navicular bone is a major cause of morbidity and chronic pain in undiagnosed cases. It can also lead to secondary flat foot deformity in advanced cases [8]. Although con-

Table 1
Characteristics of the five patients with accessory navicular bone.

Parameters	Case 1	Case 2	Case 3	Case 4	Case 5
Age (years)	23	34	31	45	42
Gender	Male	Male	Male	Male	Female
Duration	12 months	18 months	8 months	12 months	6 months
Side involved	Right	Left	Left	Right	Left
<i>ANB type:</i>					
X-ray	II	III	II	III	III
MRI	II	III	II	Not done	Not done
Conservative Management	NSAID's, shoe support, RICE	NSAID's, Shoe orthotics, RICE	Activity modification	Shoe orthotics	NSAID's, Shoe orthotics, RICE
Outcome (6 months)	Pain free	Pain free	Pain free	Reduced pain	Pain free
Complications	Nil	Depressed MLA	Flat foot	Nil	Depressed MLA
Comorbidities	Nil	Nil	Nil	HTN, DM	Nil
Surgery	Not needed	Declined	Declined	Not needed	Refused
Aggravating factors	Prolonged standing, walking and exercise	Prolonged standing and walking	Prolonged standing and walking	Prolonged walking	Increased weight, prolonged standing and exertion

ANB: accessory navicular bone, RICE: Rest, Ice, Compression and Elevation, NSAIDs: Non-steroidal anti-inflammatory drugs, MLA: medial longitudinal arch, HTN: hypertension, DM: diabetes mellitus.

Download English Version:

<https://daneshyari.com/en/article/5666064>

Download Persian Version:

<https://daneshyari.com/article/5666064>

[Daneshyari.com](https://daneshyari.com)