Bilateral tibial midshaft fractures-a case report

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ABSTRACT

The fractures that occur by repetitive mechanical stress or similar movements are called “stress fractures”. They are quite common among athletes that are competing in any level and among army recruits who suddenly are obliged to undergo the extremely demanding exercises of the army. A stress fracture can happen to any bone of the body but they usually occur in the lower extremities like the phalanges, the metatarsals, the tarsal bones and the tibia and fibula as well. This happens because these are the bones that bear the most weight of the body and the repetitive forces cause gradual thinning of the bony tissue and eventually a fracture. Our case report involves a 23year old African football player, with vitamin D deficiency and no other medical issues. He presented to our clinic with pain in both of his tibias and an identical fracture was found at exact the same level of the tibial shaft bilaterally.

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INTRODUCTION

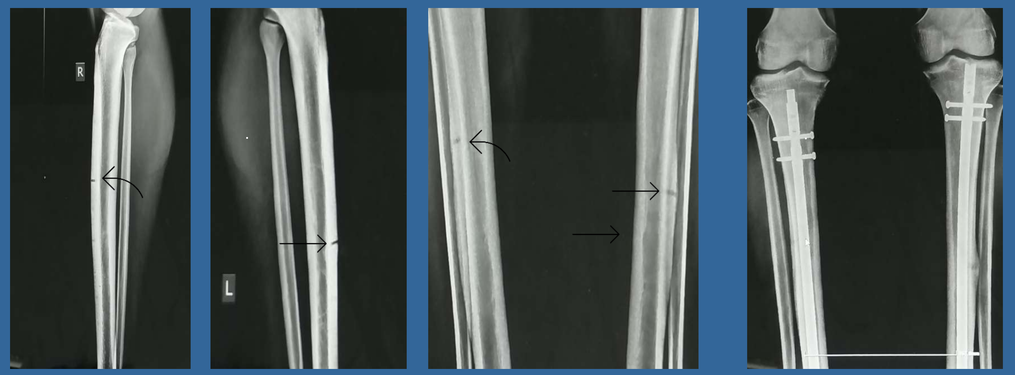
Repeated loads at the same level of a bone or sudden increase of the intensity of an exercise can be the causes of a “stress fracture”. This kind of fractures are usually two-part, non-displaced fractures and they can be easily missed by a non suspicious doctor. In older ages, osteoporosis plays a crucial part as the loads that are needed for a bone to break are significantly lower. This is the reason that patients with osteopenia or osteoporosis should have DEXA examination regularly. In even older ages, osteoarthritis is a bad prognostic factor for producing this kind of fractures. It has to be mentioned, that in every age, vitamin D deficiency may be present and this medical issue undermines the bone density and resistance

METHODS AND MATERIALS

Our case involves a 23 year old Nigerian football player with no past medical history. He denies smoking and drinking and taking of any kind of medications.. He started playing football at the age of 12 years old and he is playing professionally from 2015. His position in the field is one of the most demanding position as he is an attacker which means that he has to move constantly and switch places all the time. This leads to a continuous stress of both of his lower limbs when changing positions throughout the duration of the training and of course the game time.
The initial onset of his symptoms appeared two years ago and these were pain and swelling at the midshaft of his left tibia. Nevertheless, the patient continued his sports activities and after ten months, the same symptoms occured at the exact same level of his right tibia. The pain got worse but the patient for his own personal reasons, appeared in our clinic just 10 months ago when the pain in both of his tibias became intolerable.

RESULTS

Initially, rest and absence from the games were suggested and physiotherapies were proposed in order to alleviate the lower limbs from the heavy loads of his profession. Nonetheless, the pain persisted and we performed a magnetic resonance imaging (MRI) in both of his tibias, which showed bilateral midshaft incomplete fractures almost at the same level.
The patient was submitted to a various other medical examinations and he was also thoroughly examined by an endocrinologist who noted a significant vitamin D deficiency.



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RESULTS

The patient was operated in both of his tibias. The operational technique that was followed was intramedullary nailing and the operations took place with 6 months difference one from another. Both of the operations were successful and uneventful. The postoperative course could be described as excellent as the 23 year old football player ,6 months postoperatively, has returned to his profession and continues to play football at professional level

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DISCUSSION

According to the most studies , tibia is the bone where most of the fatigue fractures occur, followed by the metatarsals and more rarely the fibula and the femur. The usual mechanism is repetitive loading at the normal bone. This leads to a bone weakening and finally a fracture .In a large number of cases a systemic disease plays a crucial role ,because the bone can be weakened and therefore easily fractured. Usually, it is about rheumatologic diseases as well as osteoporosis and therefore an assiduous control of the patient must be performed by other specialties.
This kind of fractures may be treated operatively and non-operatively. In our case, the patient desired to continue his professional career in football so the operations were the only solution.
In tibia the usual position of a stress fracture is at the lower third and posteromedially. In our case the fractures are in the midshaft anterolateral bilaterally which is extremely rare.

CONCLUSIONS

Stress fractures must be always added in diaforodiagnosis in all the young athletes and army recruiters which present pain and swelling at any part of the lower limb. In many cases, the correct diagnosis has been slipped and in the patient were administered only antiinflamatory drugs.
MRI scanning is essential for these fractures as it gives us a complete image of the injury

REFERENCES

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