

CASE REPORT - ORTHOPAEDICS

FREIBERG’S DISEASE IN A 20 YEAR OLD FEMALE PATIENT - A CASE REPORT

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Abstract

Background : Freiberg disease is avascular necrosis of head of second metatarsal, but can occur in any metatarsal. Physical stress causes multiple tiny fracture where the middle of metatarsal meets the growth plate. These fractures impair blood flow resulting in death of bone cells (osteonecrosis). It is an uncommon condition occupied most often in young women, athletes and those with abnormally long metatarsals. 80% diagnosed patients are women.

Materials & methods : A 20 year old girl with avascular necrosis of second metatarsal head treated by osteotomy and K wire fixation of metatarsal and immobilization in toe extension slab. Histopathological analysis reported as Avascular Necrosis and was confirmed. Routine radiographs and clinical assessment of pain, stiffness, movement of joint and functional status were done at regular intervals.

Results : A cross sectional study was conducted at a Tertiary Hospital in Chennai (Govt. Stanley Medical College and Hospital). 402 diabetic patients were included in the study during the period between October 2020 to February 2021. After obtaining informed consent from the patients, details were collected by face-to face interview using questionnaire designed for the study.

Results : Patient was immobilized for 3 months and after K wire removal patient developed stiffness of toes and in follow up treated with analgesics and toe mobilization exercises.

Conclusion : Osteotomy with K wire fixation is an option for management of painful AVN of second metatarsal head.

Keywords : Freiberg’s disease, Avascular Necrosis (AVN) of metatarsal head.

INTRODUCTION

A 20 yrs old female presented with the following complaints & clinical features

- Patient had pain in foot while walking
- Increased first web space
- Tenderness over second metatarsal head

Radiologically,

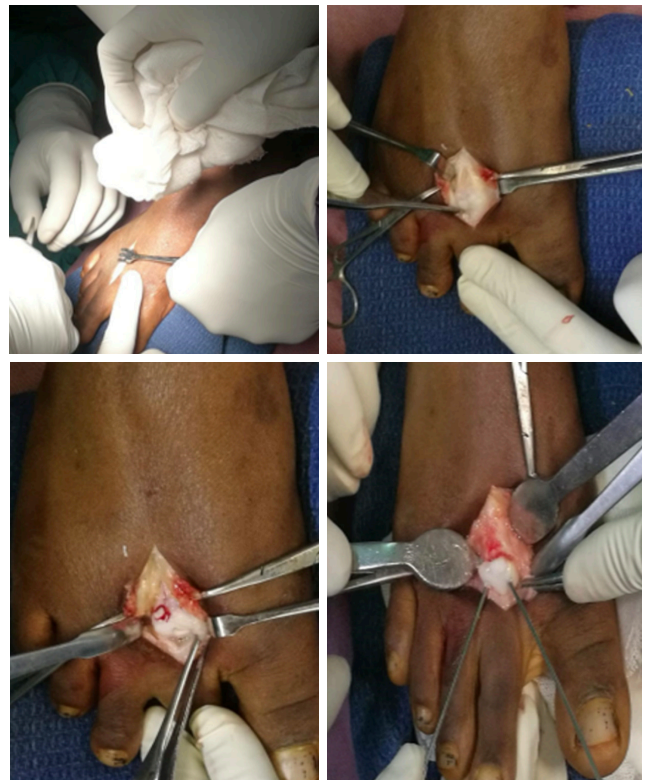
- o X-ray -Sclerosis of second metatarsal head
- o MRI –AVN of second metatarsal head

It comes under stage IV Smile classification

PRE OP IMAGES :



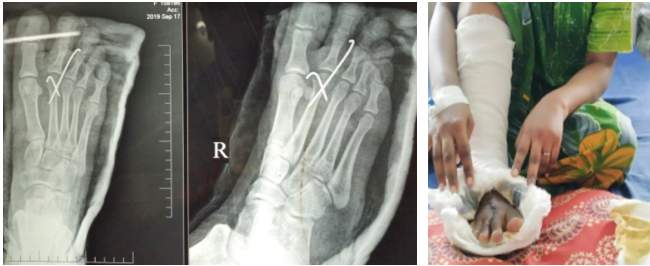
INTRA OP IMAGES :



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Under Spinal Anaesthesia and strict Aseptic precaution. Patient in supine position with knee flexed, Through dorsal approach over second metatarsal head skin, subcutaneous tissue incised. Extensor tendon retracted ,dorsal wedge osteotomy done over second metatarsal head and specimen sent for Histopathological analysis and 1.5 mm K wire fixation done. Toe extension slab applied.

PRE OP IMAGES :



FOLLOW UP IMAGES :



Follow up was done after six weeks, toe extension slab removed and partial weight bearing started.

Treatment of choice :

- Dorsal wedge osteotomy is the treatment of choice in Freiberg's disease patient.
- Prolonged immobilization should be avoided after any procedure and mobilisation of Metatarsophalangeal joint to be done at the earliest.

Literature review:

- Dorsal closing wedge closings osteotomy with K wire fixation.
- In 2007 Bulent capar, erdogan kutluay and saluah mujde done dorsal closing wedge osteotomy in 19 patients.
- In 2007 sank Ki lee, moon sang chung, goon hyun bark, young ho lee, hyun Sim gong done dorsal wedge osteotomy.

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