Cost Analysis and Outcomes of Management of 5th Metatarsal Base Fractures in a Virtual Fracture Clinic Mmodel

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Introduction

Demand for trauma services with increasing emergency department (ED) attendances, has increased pressure on fracture clinics in many units, with this demand exceeding capacity.

Virtual fracture clinics (VFCs) have been shown to be safe and cost-effective in many specialties.

The aims of this study were to assess whether the management of 5th metatarsal base fractures using a VFC model is safe, cost effective and avoids adverse outcomes.

Methods

We collected data for base of 5th metatarsal fractures presenting in 2019. Minimum follow-up was one year. Patient records were retrospectively reviewed for baseline demographic data, including co-morbidities and smoking history.

Complication rates, including mal and non-union as well as operative intervention rates were noted. Those requiring face to face appointments were identified and the reason for return was identified.

A cost analysis was also performed to evaluate cost saving to the unit.

Standardised VFC pathway

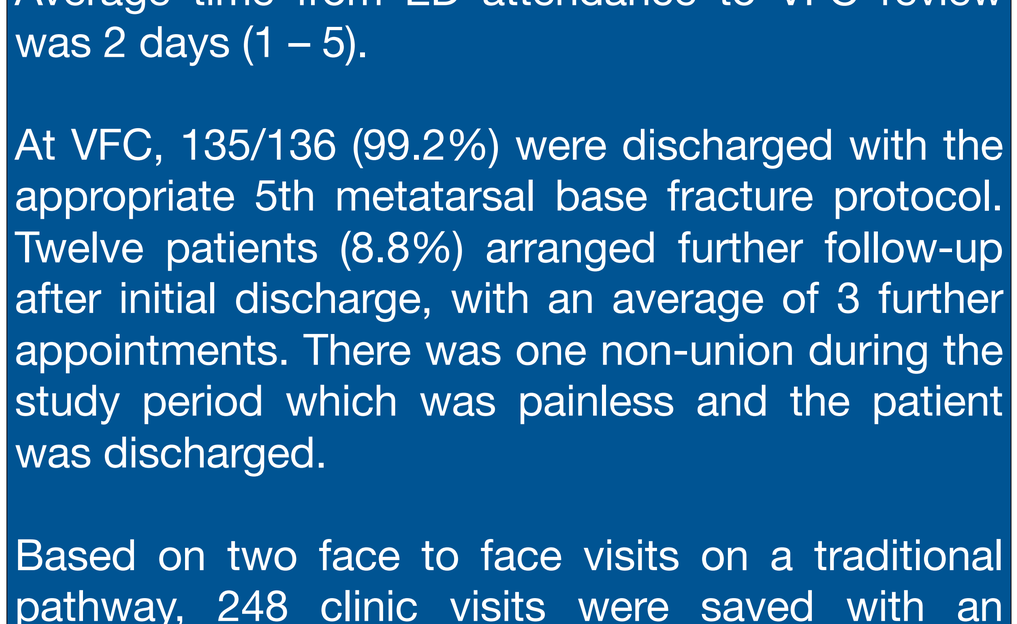
Injury

Emergency Department

Assessment by emergency medicine clinician or specialist nurse	Plain orthogonal radiographs	Placement in walking boot with analgesia	Venous thromboembolism assessment	Referral to virtual fracture clinic

Virtual Fracture Clinic

Review of imaging by Trauma and Orthopaedic surgeon	Telephone call by specialist nurse	Six weeks walking boot use before self-removal and continuation of normal activities	Advice to contact should the patient have concerns	Discharge



Results

The mean patient age was 41.6 years (18-92). Average time from ED attendance to VFC review was 2 days (1 – 5).

At VFC, 135/136 (99.2%) were discharged with the appropriate 5th metatarsal base fracture protocol. Twelve patients (8.8%) arranged further follow-up after initial discharge, with an average of 3 further appointments. There was one non-union during the study period which was painless and the patient was discharged.

Based on two face to face visits on a traditional pathway, 248 clinic visits were saved with an approximate cost saving of £40,000.

Conclusion

Our study supports the management of 5th metatarsal base fractures in the VFC setting. We have shown that the VFC model, with a well and defined protocol is both safe and cost effective. Fifth metatarsal base fractures have good outcomes with conservative management, removing the traditional need to have in-person clinic visits to confirm the diagnosis, management and prognosis.