

Histological evaluation of transverse fracture healing in pigeon (*Columba livia*) ulna

Abstract

This study was conducted on 12 adult pigeons (*Columba livia*) of six months age. The birds were randomly divided into three groups of four birds in each. A transverse fracture was created at mid shaft of left ulna. The fracture was fixed with external skeletal fixation and all operations performed under Isoflurane anaesthesia. All birds were studied for three, six and 12 weeks. This study was approved by Animal Care and Use Committee of University Putra Malaysia. The purpose of this study was to find out the histological assessment of healing of ulna fracture stabilized with external skeletal fixation in bird model. Results at three weeks showed cartilage and cancellous bone union with a mean value of 2.75 ± 0.63 . At six weeks cancellous and compact bone union was seen with a mean value of 4 ± 0.0 . At 12 weeks significant bone union along with callus remodelling was observed at $P < 0.05$. It was concluded that histological assessment of fracture healing showed that ESF provided excellent fracture healing and could be useful for fracture stabilization in avian clinical fracture management.

Keyword: Fracture; Assessment; Histology; Bone union; ESF; Pigeon