

**Case Report****Median Nerve Entrapment at the Fracture Site Following  
Supracondylar Humeral Fracture: A Case Report****Hasan Metineren<sup>1</sup>, Burkay Kutluhan Kaçira<sup>2</sup>, Yunus Güzel<sup>2</sup>, Serdar Toker<sup>2</sup>**<sup>1</sup>Dumlupınar University Medical Faculty, KUTAHYA / TURKEY<sup>2</sup>NE University Medical Faculty, KONYA / TURKEY**Introduction**

Supracondylar humeral fractures are one the most common fractures in childhood<sup>1</sup>. Anterior interosseous syndrome is uncommon after these fractures but is a major clinical problem for the orthopedic surgeon<sup>6</sup>. In this case, we tried to compare the literature with our approach to the anterior interosseous syndrome which developed following a supracondylar humeral fracture .

**Case**

About 16 months ago, 9-year-old male patient was diagnosed with left supracondylar humeral fracture after a fall and he underwent open reduction and K-wire fixation in another center. The patient who could not flex the 1st and the 2nd fingers on the left-hand during the postoperative follow-up period and at the end of 6 months without any signs of improvement, was directed to our clinic. In the examination of the patient it was seen that the motions of the operated left elbow were good but he was unable to perform opposition on the left hand.

Union was complete in the X-ray and there was no evidence of deformity. We thought that the patient had anterior interosseous nerve injury and surgery was planned. Electromyography was not applied. Clinical symptoms and radiological findings were sufficient to make the diagnosis. In the operation we approached the antecubital area with curved incision and passed through the intermuscular plane and explored the median nerve between the proximal and distal ends of the fracture line. It was seen that the nerve was interrupted with a bone bridge at the level of the fracture line. When the bone bridge was removed it was seen that the nerve continued as a thin fibrotic band and the distal of the nerve was relatively thin. Fibrotic part of the median nerve was resected. Nerve was primer repaired as end to end after the nerve ends were refreshed. After nerve repair and washing, Tisseel Fibrin Glue © was performed around the repair line. After waiting for enough time and hemostasis, layers were closed anatomically. Long arm splint was performed for three weeks. Improvement was followed up in every 15 days. At the end of the 6th and 12th months the patient was able to perform opposition.





### Discussion

Median nerve injury after supracondylar humeral fractures can be missed out if not examined carefully. Frequency of nerve injury after these fractures were reported as 3-22%<sup>1</sup>. Many of these are radial and less frequently ulnar nerve injuries and are considered to be neuropraxia. In posterolateral or extension-type fractures the possibility of median nerve injury is higher<sup>5-6</sup>. Improvement with conservative treatment is often observed at 8 weeks at most. Nerve lesion must be considered in cases that do not show any improvements in 4-5 months<sup>1</sup>. This may be because of the compression of the nerve in the fracture line or callus. Such cases are rare in the literature. Nerve exploration is generally recommended in cases with no signs of improvement in five months of time post-operatively<sup>1</sup>.

Even in displaced fractures that were followed conservatively for 6 months, exploration of the median nerve is necessary if the lesion is ongoing. It was reported that the nerve had healed after the first year of resection of the fibrotic part entrapped in the callus and primary repair. Six cases, with median nerve lesion, who were treated with closed reduction and over head traction and casting were all reported to improve

in 4-5 months of follow-up. In a case of median nerve injury after elbow dislocation which reduced spontaneously, follow-up recovery was observed without resection and grafting. Today the common trend in nerve lesions following fractures is conservative follow-up<sup>1</sup>. The results of EMG examination are significant<sup>3</sup>. Exploration is recommended for the nerve lesions which did not improve in an average of 5 months period. In our case surgery was performed because no improvement in the 6-month follow-up was seen. After excision of the damaged nerve tissue and primary repair, satisfactory results were obtained in 12 months.

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