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**Pharmaceutical Control of Pain After
Miniscrew Insertion and Periotest
Evaluation of Stability
(An In-vivo Study)**

**A thesis submitted to the council of the College of
Dentistry /University of Baghdad in partial fulfillment of
the requirements for the degree of Master of Science in
Orthodontics**

**By
Hussain Jabar Kadhem
B.D.S.**

**Supervised by
Prof. Dr. Akram Faisal Alhuwaizi
B.D.S., M.Sc., Ph.D.**

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Abstract

During orthodontic therapy, patients often complained about pain and discomfort. Skeletal anchorage is a new concept in orthodontic treatment. Fear of pain can contribute to patients' avoidance of orthodontic treatment, while insufficient stability of miniscrew may led to lose of miniscrew.

This study aimed to evaluate the degree of pain and discomfort experienced after miniscrew insertion using a visual analog scale to assess the degree of pain percept by patients and measuring miniscrew stability, 2 week after insertion using Periotest device.

Fifty-one orthodontic patients in a college clinic were recruited who required bilateral miniscrews for orthodontic anchorage. Under local anesthesia, each patient received two miniscrews in the maxillary buccal area (one side 1.6 x 8 mm and the other side 1.6 x 10 mm). Each patient was given a questionnaire that included a visual analog scale (VAS) to indicate pain and discomfort after insertion for three days. The patients were split into three groups according to the analgesic used (Paracetamol 500 mg tid, Etoricoxib 90 mg qd, and Ibuprofen 200 mg tid). After two-weeks, early stability was measured using Periotest device.

The result of this study showed that the maximum pain intensity was 6 degree on scale after 2 hours of insertion and decreased gradually to nearly disappeared and reached zero at the third day. Pain intensity did not significantly differ between right and left sides, males and females, and between short and long miniscrews. Patients who took paracetamol reported more pain intensity than those who took Ibuprofen and Etoricoxib. While patients who took Ibuprofen reported the least pain intensity during the first two days. For early stability, there was no significant difference between 8 mm and 10 mm

long miniscrews, between right and left sides, and no correlation was found between pain experience after miniscrew insertion and its stability.

In Conclusion, Ibuprofen 200 mg taken three times daily for two days is an effective method in reducing pain and discomfort after miniscrew insertion. The length of miniscrew and the side of insertion do not effect on early of miniscrew.