PIEZOELECTRIC VERSUS CONVENTIONAL ROTARY TECHNIQUE
FOR SURGICAL EXTRACTION OF HORIZONTALLY IMPACTED
MANDIBULAR THIRD MOLAR
(A RANDOMIZED CONTROLLED CLINICAL TRIAL)

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INTRODUCTION
Impacted mandibular third molar extraction is a common procedure in dental surgery. The conventional technique involves using manual and/or rotary instruments to perform osteotomy and odontectomy, allowing dental extraction with a shorter intervention time and reduced patient anxiety. (1) New surgical techniques and innovative technologies have greatly improved the predictability and reduced the invasiveness of oral surgery procedures. Piezoelectric bone surgery (PBS) was introduced into clinical practice almost 20 years ago. (2)

METHODOLOGY
Sixteen patients with horizontally impacted lower third molars in class II position B (3) indicated for surgical extraction were treated randomly using either the piezo-surgery (4) or the conventional bur technique. (5)

Duration of the procedure, soft tissue healing, postoperative edema, trismus, pain, and bone density were evaluated.

Post operative pain was evaluated as mean VAS score. (5)

RESULTS AND DISCUSSION
All patients were clinically evaluated starting from the first postoperative day till the seventh postoperative day. Study and control groups were compared using paired t-test. They showed soft tissue healing with absence of any signs of infection. There was statistical significance in reduction of pain (table 1), trismus (table 2), and swelling in study group, where the time of the procedure was statistically increased in study group. For bone density, statistical difference was found where study group showed better results.

<table>
<thead>
<tr>
<th>Table (1): VAS mean score</th>
<th>Mean (SD)</th>
<th>P value of paired t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>After 1 day</td>
<td>Study</td>
<td>Control</td>
</tr>
<tr>
<td>After 3 days</td>
<td>2.6(0.3)</td>
<td>4.0(0.5)</td>
</tr>
<tr>
<td>After 7 days</td>
<td>1.2(0.4)</td>
<td>4.0(0.5)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Table (2): Trismus (limited mouth opening) mean value (cm)</th>
<th>Mean (SD)</th>
<th>P value of paired t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>After 1 day</td>
<td>Study</td>
<td>Control</td>
</tr>
<tr>
<td>After 3 days</td>
<td>3.6(0.3)</td>
<td>2.6(0.4)</td>
</tr>
<tr>
<td>After 7 days</td>
<td>3.8(0.2)</td>
<td>3.0(0.2)</td>
</tr>
</tbody>
</table>

CONCLUSION
With the limitations of this study, it can be concluded that piezo-surgery reduces postoperative pain, trismus, and swelling and improves the postsurgical soft tissue healing and bone formation. Also, it may play an important role in increasing bone density within the extraction socket and decreasing the amount of bone loss during operation. The only disadvantage encountered in the study is the elongation of surgical time.

ACKNOWLEDGMENT
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REFERENCES

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