NOVEL MG PAIRED TONGUE RETRACTOR FOR TONGUE RETRACTION IN THIRD MOLAR SURGERY - A PILOT STUDY

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ABSTRACT:
Tongue retraction is vital in dental and oral surgical procedures. Proper retraction of tongue aids in visualization of the surgical field which in turn is critical for a number of oral surgical procedures where access and visualization are of utmost importance. Even though the tongue can be retracted via a number of instruments available, the problem of retraction without slippage of the tongue especially in cases of macroglossia remains. This is a tongue retractor with a design favouring adaptation of the tongue to the retractor to prevent slipping of the tongue and the use of ergonomic design to prevent finger fatigue of the operator is in need in the state of art. In this pilot study we are evaluating the efficacy of “Novel MG Paired Tongue Retractor” in comparison with Lack tongue depressor in third molar surgery.

Keywords: Modified tongue retractor; Novel MG paid tongue retractor; Tongue retraction

I. BACKGROUND:
Tongue retraction is vital in dental and oral surgical procedures. Proper retraction of tongue aids in visualization of the surgical field which in turn is critical for a number of oral surgical procedures where access and visualization are of utmost importance. Mandibular third molar surgery is the ordinarily performed minor oral surgery[1]. Even though the tongue can be retracted via a number of instruments available, the problem of retraction without slippage of the tongue especially in cases of macroglossia remains[2][3,4].

To overcome these problems, “The Novel MG Paired Tongue Retractor” was fabricated [fig1]. It is a paired tongue retractor with a design favouring adaptation of the tongue to the retractor to prevent slipping of the tongue and the use of ergonomic design to prevent finger fatigue of the operator is in need in the state of art. Also it facilitates the adequate visibility and access at the time of suturing. A pilot study was carried out to evaluate this newly fabricated paired instrument to evaluate the efficacy of “Novel MG Paired Tongue Retractor” in comparison with Lack’s tongue depressor for retraction of the tongue in mandibular third molar surgery.

II. MATERIALS AND METHODS:
The 10 patients who underwent mandibular third molar surgeries were selected (bilateral impacted third molar surgeries). Each right and left side was divided into two groups: first group (use of Lack’s tongue depressor) and second group (use of Novel MG Paired Tongue Retractor)[fig2]. Every group had 10 sides to evaluate. The time taken for suturing after the extraction was recorded. Three simple interrupted sutures were placed in each surgical procedure. All the procedures were carried out by a single operator. The relevant information was gathered and tabulated. IBM SPSS 2.0 was used to analyse the results and a independent samples T-test test was used to determine the statistical significance.

III. RESULTS:
Total 10 individuals were included in the study. There were 4(40%) females and 6(60%) males included in the study in the age range of 18-50 years. The average time taken for suturing after the third molar surgery with the use of austin’s retractor was 3.85 mins. The average time taken for suturing with the use of Novel MG paired tongue retractor was 2.25 mins. There was statistical significance in comparison between time taken for suturing between Lack’s tongue depressor and Novel MG paired tongue retractor (p< 0.001)[table 1]
Fig 1. Novel MG Paired Tongue Retractor

Fig 2. Use of Novel MG Paired Tongue Retractor in suturing after third molar surgery

Table 1: Time taken for suturing among two study groups

<table>
<thead>
<tr>
<th>Time taken for suturing</th>
<th>GROUP</th>
<th>N</th>
<th>Mean (Min)</th>
<th>Std. Deviation</th>
<th>Mean difference (Min)</th>
<th>Sig. (Two Tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MG Tongue Retractor</td>
<td>10</td>
<td>2.25</td>
<td>0.4859</td>
<td>1.6</td>
<td>0.0001</td>
</tr>
<tr>
<td></td>
<td>Lack’s tongue depressor</td>
<td>10</td>
<td>3.85</td>
<td>0.4743</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IV. DISCUSSION:

The tongue is a muscular organ in the oral cavity that is very important for speech, mastication, taste and swallowing. Surgical procedures involving manipulation or surgery to the tongue may cause severe discomfort and difficulty to patients postoperatively. Tongue retraction is very important in dental and oral surgical procedures[5]. Proper retraction of tongue helps in visualization of the surgical field which in turn is critical for a number of oral surgical procedures, especially in mandibular third molar surgeries as its routinely performed oral surgical procedure. In this procedure, access and visualization are of utmost importance.

Methods of retracting the tongue found in the literature include using a single suture piercing the tongue through and through, using a gauze to grasp it by hand, utilizing tools such as the dental mouth mirror and the Weider tongue retractor, or even piercing it with a towel clip [3]. Lack’s tongue depressor and Weider’s tongue retractor is the most commonly used for the retraction of the tongue. In this pilot study we evaluated of efficacy “Novel MG Paired Tongue Retractor”. There was statistical significance in comparison between time taken for suturing between Lack’s tongue depressor and Novel MG paired tongue retractor (p< 0.001) in comparison with Lack’s tongue depressor for retraction of the tongue during suturing in third molar surgery. The time taken for suturing was recorded (three simple interrupted sutures). There was statistical significance in comparison between time taken for suturing between Lack’s tongue depressor and Novel MG paired tongue retractor (p< 0.001).
“The Novel MG Paired Tongue Retractor” is present with a design favouring adaptation of the tongue to the retractor to prevent slipping of the tongue and the use of ergonomic design to prevent finger fatigue of the operator is in need in the state of art. Also it facilitates the adequate visibility and access at the time of suttinging.

Future scope for this study can be the application of “The Novel MG Paired Tongue Retractor” in other minor oral surgical procedures including arch bar placements and during intra-oral wiring.

V. CONCLUSION:

This tongue retractor is comprising of a retracting arm and a characterized angulated handle

Adapts with the tongue without any slippage and does not cause any finger fatigue to the operator. Hassle free visualization of mandibular posterior teeth, lingual mandibular mucosa and floor of the mouth on both left and right sides of oral cavity. This tongue retractor can be used effectively in case of third molar surgery.

REFERENCES: