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## ORIGINAL RESEARCH

### Evaluation of effect of multiple sutures versus suture less technique in 3<sup>rd</sup> molar extraction followed by inflammatory complication

Nishant Kumar Tewari<sup>1</sup>, Kunal Kundan<sup>2</sup>, Sushmita Tiwari<sup>3</sup>, Harsh Kumar<sup>4</sup>, Madhuresh Kumar<sup>5</sup>, Anirudh Rehani<sup>6</sup>

<sup>1</sup>Dental Surgeon, Nalanda Medical College & Hospital Patna Bihar;

<sup>2</sup>General Practitioner, Patna, Bihar;

<sup>3</sup>General Practitioner, Patna, Bihar;

<sup>4</sup>Assistant Professor, Dept. of Dentistry, Patna Medical College & Hospital Patna Bihar;

<sup>5</sup>Reader, Dept of Oral Pathology, Buddha Institute of Dental Sciences & Hospital Patna;

<sup>6</sup>Prosthodontist, New Delhi.

#### ABSTRACT:

**Back ground:** surgical extraction of third molar is one of the most commonly used routine procedure in oral surgery. Complications like pain, swelling and trismus are seen in dis impaction cases. Wound closure technique is an operative factor that influences early post-operative complications, after lower third molar surgery. **Aim:** To study and evaluate the effect of multiple sutures versus suture less technique in 3<sup>rd</sup> molar extraction followed by inflammatory complication. **Method:** 60 patients with impacted lower third molar were selected for the study. Patients were divided into two groups. Group 1 consisted of 30 patients treated with suture after extraction and group 2 consisted of 30 patients treated without suture after extraction. Pain, swelling and trismus were evaluated at 24 h, 48 h and 1 week postoperatively in both groups. **Result:** Result showed that pain, swelling and trismus were less with the suture-less technique at the 24 and 48 h postoperative reviews ( $p < 0.05$ ). At the 1week postoperative evaluation period there was no difference in terms of these parameters between the two techniques ( $p > 0.05$ ). **Conclusion:** suture less technique can be successfully used in treatment of lower third molar extraction.

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**Corresponding Author:** Dr. Nishant Kumar Tewari, Dental Surgeon, Nalanda Medical College & Hospital Patna Bihar; India

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#### Introduction:

Surgical extraction of third molars is routine surgical procedure of oral surgery. Various authors have suggested it to be the most common surgical procedure in oral surgery.<sup>1,2</sup> in spite being the most common procedure it is often associated with complications like swelling and limitation in mouth opening.<sup>3</sup> According to the data available this complication is commonly related with the length of the surgical intervention, the surgical difficulty and operative trauma.<sup>4,5</sup>

Researchers for past many years are trying to alleviate these complications and have performed several experimental studies. Authors have suggested closure techniques with or without incorporation of drains, use of drugs such as analgesics, corticosteroids, laser application and antibiotics.<sup>6</sup> Many authors have suggested suture-less techniques in which no form of suturing is used.<sup>7</sup> So in present study we aimed to study the effect of suture and sutureless technique in post-op complications.

**Aim:**

To study and evaluate the effect of multiple sutures versus suture less technique in 3<sup>rd</sup> molar extraction followed by inflammatory complication

**MATERIALS AND METHODS:**

This randomized controlled crossover clinical study was carried out at District Early Intervention Centre, Nalanda Medical College & Hospital, Patna. Ethical committee approval was obtained from the Institutional Ethics Committee. A written informed consent was obtained from the parents/guardian. The patients visiting the department of oral surgery in need of extraction of lower third molar were screened and 60 patients with following inclusion Criteria were included for the present study.

**INCLUSION CRITERIA:**

- 1) Impacted lower third molar
- 2) Patients willing for extraction

**EXCLUSION CRITERIA:**

- Patients suffering from any systemic diseases.
- Physically and mentally challenged children

The selected 60 patients were divided in two groups based on type of treatment.

Group 1: suture group (n=30)

Group 2: suture less group (n=30)

Pain, swelling and trismus were evaluated at 24 h, 48 h and 1 week postoperatively in both groups. Patients were given the same oral antibiotics and analgesics (Amoxicillin 500 mg 8 hourly and Metronidazole 400 mg 12 hourly for 5 days; Diclofenac Sodium 50 mg 12 hourly for 3 days) and they were also given written postoperative instructions.

**Statistical Analysis:**

The values obtained during each session was assessed, tabulated and subjected to appropriate statistical analysis. Paired t-tests were performed to test the null hypothesis that no differences exist within the same treatment group between the onset and the end of treatment. The levels of significance tested were  $P < .05$  and  $P < .01$ .

**Results:**

A total of 60 patients in need of extraction of lower third were selected for the current study. 60 patients were divided in different group based on the type of treatment used. Group 1 was extraction with sutures group, it consisted of 30 patients and group 2 were extraction group without suture, it consisted of 30 patients (graph 1)

Table 1 represents the duration of time taken in completion of treatment of both groups. Total time taken for extraction and placement of suture was 35.1 minutes whereas time taken by second group i.e. no suture group was 32.3 minutes. However, the difference between two groups in respect of time was not found to be significant in present study.

Table 2 represents post extraction evident in both groups on day 1,2 and 7. Result showed that the results showed that pain, swelling and trismus were less with the suture-less technique at the 24 and 48 h postoperative reviews ( $p < 0.05$ ). At the 1week postoperative evaluation period there was no difference in terms of these parameters between the two techniques ( $p > 0.05$ ). Trismus was found to be statistically significant in suture group as compared to no suture group.

**Discussion:**

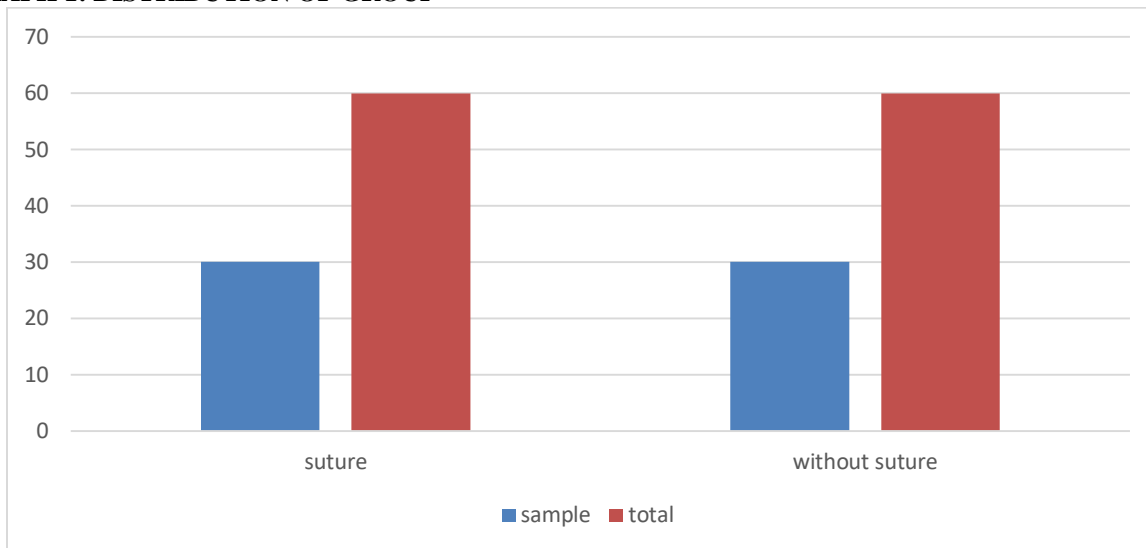
In the current study we made an attempt to study the effect of suture and suture less technique in lower third molar extraction cases. A total of 60 patients were included in the study and patients were divided in two groups based on the type of treatment received. Group 1 was extraction with sutures group it consisted of 30 patients and group 2 were extraction group without suture, it consisted of 30 patients. In present study we found that a significant difference was observed between two groups in terms of pain and swelling in 1<sup>st</sup> and 2<sup>nd</sup> day however the difference was not significant in 7<sup>th</sup> day. Pain is generally found to be influence by many reasons like age, tolerance, pain threshold that could be the reason of variation observed.<sup>8</sup>

Result in present study showed that pain, swelling and trismus were less with the suture-less technique at the 24 and 48 h postoperative reviews ( $p < 0.05$ ). At the 1week postoperative evaluation period there was no difference in terms of these parameters between the two techniques ( $p > 0.05$ ). Quite a few authors have suggested that suture-less technique is cheap, saves operative time, minimizes manipulation of soft tissue and hence causes less surgical morbidity and it allows free fluid to flow thus prevents infection.<sup>7,9,10</sup> Baqain *et al.* in their study obtained better results regarding trismus and swelling with the use of an envelope flap.<sup>11</sup>

**Conclusion:**

Within the limits of our study we conclude that suture less technique is simple and easy to perform and can be successfully used in treatment of extraction of lower third molar as it causes minimal pain, swelling and trismus.

**GRAPH 1: DISTRIBUTION OF GROUP**



**Table 1: duration of surgery for both groups**

Variables	Time	p value**
Suture	35.1 (4.1)	0.18
Without suture	32.2 (6.68)	

**Table 2: complications after surgery**

Variables	Suture group (mean)				Without suture group (mean)			
	Day 1	Day 2	Day 7	P value	Day 1	Day 2	Day 7	P value
Pain	5.1	3.11	0.5	<0.001	4.1	2.5	0.4	0.001
Swelling	1.2	1.2	0.1	0.001	0.8	1.2	0.1	0.001
Trismus	1.4	1.1	0.3	<0.001	1.1	0.9	0.2	<0.001

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