

Harsukh Educational Charitable Society

International Journal of Community Health and Medical Research

Journal home page: www.ijchmr.com

doi: 10.21276/ijchmr

ISSN E: 2457-0117 ISSN P: 2581-5040

Index Copernicus ICV 2018=62.61

ORIGINAL RESEARCH

Assessment Of Prognosis Of Peri-Apical Surgeries In A Known Population

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ABSTRACT

BACKGROUND: Endodontic treatment is usually performed in teeth with periapical lesions. Hence; the present study was planned for assessing the prognosis of peri-apical surgeries in a known population. **MATERIALS & METHODS:** Assessment of a total of 50 patients who were scheduled to undergo peri-apical surgery was included in the present study. Complete demographic details of all the subjects were obtained. Complete clinical profile of all the patients was also recorded. Peri-apical surgeries were performed in all the patients under the hands of skilled Endodontists. Follow-up was done at regular intervals for assessing the prognosis. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software. **RESULTS:** 60 percent of the total patients were males while the remaining were females. Overall prognosis of peri-apical surgery in the present study was 92 percent. Prognosis among males was 93.3 percent while prognosis among females was 90 percent. **CONCLUSION:** Under the hands of skilled Endodontists, the prognosis of peri-apical surgeries is excellent. However; further studies are recommended.

KEY WORDS: Peri-apical surgery, Prognosis

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This article may be cited as: Tandon A, Goel M, Singh J. Assessment of Prognosis of Peri-Apical Surgeries in a Known Population. HECS Int J Comm Health Med Res 2019; 5(3):62-64.

INTRODUCTION

Endodontic treatment is usually performed in teeth with periapical lesions. However, in some cases the pathology persists. Thus, periapical surgery has to be performed. It is considered to be the last treatment option before the extraction of a tooth.¹ The main objective of periapical surgery is to seal the root canal system, thereby enabling healing by forming a barrier between the irritants within the confines of the affected root and the periapical tissue. The success of periapical surgery is usually determined by both radiological signs and clinical signs and symptoms.²⁻⁴ It is of clinical relevance to perform a thorough clinical and radiographic examination of the tooth before apical surgery (including adjacent and opposing teeth), in order to decide whether surgical or non-surgical endodontics should be considered.^{5,6}

Hence; under the light of above mentioned data, the present study was planned for assessing the prognosis of peri-apical surgeries in a known population.

MATERIALS & METHODS

The present study was conducted with the aim of assessing the prognosis of peri-apical surgeries in a known population. Written consent was obtained from all the patients before the starting of the surgery. Assessment of a total of 50 patients who were scheduled to undergo peri-apical surgery was included in the

present study. Complete demographic details of all the subjects were obtained. Complete clinical profile of all the patients was also recorded. Exclusion criteria for the present study included:

- Patients with presence of any other systemic illness,
- Diabetic or hypertensive patients,
- Patients with presence of any bone related pathology

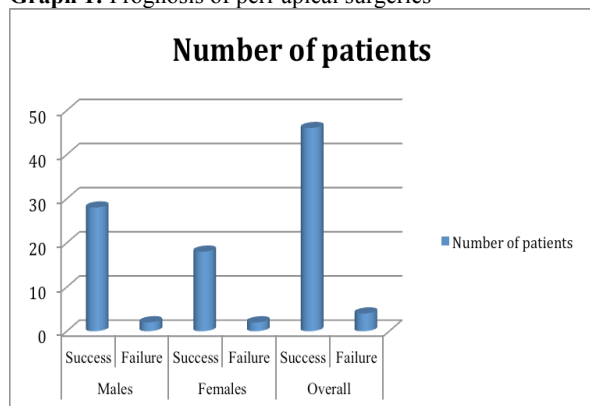
Peri-apical surgeries were performed in all the patients under the hands of skilled Endodontists. Follow-up was done at regular intervals for assessing the prognosis. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software.

RESULTS

Analysis of a total of 50 patients scheduled to undergo peri-apical surgeries were included in the present study. 41.8 years was the mean age of the patients scheduled to undergo peri-apical surgery. 60 percent of the total patients were males while the remaining were females. Overall prognosis of peri-apical surgery in the present study was 92 percent. Prognosis among males was 93.3 percent while prognosis among females was 90 percent.

Table 1: Prognosis of peri-apical surgeries

Prognosis		Number of patients	Percentage
Males	Success	28	93.3
	Failure	2	6.7
Females	Success	18	90
	Failure	2	10
Overall	Success	46	92
	Failure	4	8

Graph 1: Prognosis of peri-apical surgeries

DISCUSSION

Endodontic treatment attempts to eliminate bacterial infection in the radicular duct. According to a metaanalysis carried out by Ng et al., the probability of success of this treatment ranges from 86% to 93% in a period of 2-10 years following root canal treatment. Despite a correct endodontic treatment or retreatment, in some cases periapical pathology persists. Therefore, periapical surgery may be indicated considering that is the last therapeutic option previous tooth extraction.⁵⁻⁷

The reasons for using regeneration techniques in periapical surgery are to accelerate periapical healing and to allow healing in compromised clinical situations like large periapical lesions (>1 cm), through-and-through lesions and lesions with a periodontal component as apicomarginal lesions. Although regenerative therapies have great potential, they remain unpredictable in their ability to consistently produce acceptable outcomes in all situations.⁸⁻¹¹

Analysis of a total of 50 patients scheduled to undergo peri-apical surgeries were included in the present study. 41.8 years was the mean age of the patients scheduled to undergo peri-apical surgery. 60 percent of the total patients were males while the remaining were females. The use of a surgical microscope is strongly advocated in apical surgery since it allows inspection of the surgical field at high magnification with excellent and focused illumination, detection of microstructures (additional canals, isthmus) and root integrity (cracks, fractures, perforations),

distinction between bone and root, and identification of adjacent important anatomical structures.¹²

Overall prognosis of peri-apical surgery in the present study was 92 percent. Prognosis among males was 93.3 percent while prognosis among females was 90 percent. Ögütü F et al evaluated the clinical and radiographic outcomes and periost values of apical surgery treatment. A total of 112 teeth were included. SuperEBA and MTA were used as root-filling materials. The recorded parameters were gender, age, location of the tooth, the presence/absence of a post, coronal restoration of the tooth, previous surgical/nonsurgical treatment of the tooth, the size of periapical lesions, histopathology of periapical lesions, smoking habits. Also the periost values were recorded. The overall success rate was 88.4%. With regard to the evaluated variables, only one parameter (tooth type) was found statistically significant. Although the periost values were decreased after 6 months compared to immediately postoperative measurements, the values were still significantly higher than preoperative measurements. In this study, apical surgery performed with the modern instruments has significantly successful results with 88.4% success rate.¹³ Rahbaran S et al compared the outcome of periapical surgery performed in endodontic and in oral surgery units of a teaching dental hospital. A total of 176 teeth (endodontic unit, 83; oral surgery unit, 93) surgically treated more than 4 years previously were examined clinically and radiographically by means of strict criteria. The rate of complete healing for patients treated in the endodontic unit (37.4%) was significantly ($P = .009$) higher than that for patients treated in the oral surgery unit (19.4%). The technical quality of surgery ($P < .001$), placement of root-end filling ($P = .039$), absence of a preoperative periapical lesion ($P = .042$), absence of a post ($P = .047$), and presence of an adequate coronal restoration ($P = .056$, odds ratio = 3.71) had significant effects on treatment outcome. The technical quality of periapical surgery, the presence of a periapical lesion, and adequate apical and coronal seal are important prognostic determinants of successful periapical surgery.¹⁴

CONCLUSION

Under the hands of skilled Endodontists, the prognosis of peri-apical surgeries is excellent. However; further studies are recommended.

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