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Research Article

**TO EVALUATE THE PERIAPICAL RADIOLUENCIES  
HEALING RELATED WITH ONE, TWO AND MULTIPLE  
ENDODONTICS VISITS**

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**Abstract:**

**Objective:** The aim of this study was to evaluate the role of different approaches in the recovery of peripheral radiolucencies.

**Study design:** A cross sectional Study.

**Place and duration:** In the Operative Dentistry and Endodontics Department of Nishtar Hospital, Multan for one year duration from January 2018 to January 2019.

**Methods:** Thirty-six mandibular molar included for root canal treatment with one, two visits and multiple visits. All treated teeth were examined radiologically and clinically after 6 weeks, 12 weeks, 6 months and 12 months observation.

**Results:** Clinically, except for an outbreak in group B, all treated teeth were successful. Radio logically, after 12 months the mean decrease in radiolucency with group A was 0.59; the percent reduction with group B: 1.12 and group C: 1.08 were 94.26, 85.92 and 86.76, respectively.

**Conclusion:** There was no statistical difference between the three groups. Postoperative complications were less in all groups. One-time root canal treatment can be recommended as a treatment method in today's fast-moving world, because it saves time and prevents outbreaks and dental fractures between visits.

**Key words:** Mandibular molar, endodontic care, endodontic treatment.

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**INTRODUCTION:**

In today's fast world, patients are demanding treatment methods that require a minimum visit. This attracted the attention of clinicians to study the convenience and effectiveness of root canal treatment during a single visit<sup>1-3</sup>. Total endodontic care of a tooth in a single visit is an old concept in clinical practice. Endodontic treatment was displaced by multiple-visit procedures because it became more challenging and sophisticated, and therefore needed more time to be properly completed<sup>4</sup>. Dentists were told that endodontic care required more than one visit and as a result, single-visit care fell to the side of the road. However, he continued to practice a single visit of endodontics. Usually, secretly, such a treatment was considered radical and poor quality<sup>5</sup>. It is not a new phenomenon, although it does endodontic treatment in one visit. Historically, the only visit procedure can be followed from the literature for at least 100 years. However, most practitioners implement a multi-visit approach. Fox et al. (1970) 6 compared single-visit radical canal treatment with multiple-visit radicular canal treatment and did not observe statistical differences in postoperative sequelae<sup>6</sup>. Raane et al. (1983) reported that postoperative pain was twice in the multiple visit approach compared to the single visit approach<sup>7</sup>. Oliet (1993) 1 supported a single-visit canal treatment and discussed the disadvantages of multiple restoration approaches such as loss of temporary restoration, loss of appointments, tooth fracture and loss of time<sup>8</sup>. Landowners (1980) reported no difference in outbreaks between the two. In a long-term study, Oliet compared postoperative pain and inflammation as well as a single-visit for recovery<sup>9</sup>. Patients with acute alveolar abscess, patients with persistent intractable exudates and those with anatomical difficulties in their teeth and, therefore, those who do not improve their drainage, patients with acute symptoms were excluded from the study<sup>10</sup>. Examination of the data showed that only 4 teeth in both groups had a slight inflammation that disappeared within 48 hours; 3% of 264 teeth treated during 2 visits resulted in severe pain within 24 hours, and about 7% of the single visit group had moderate pain in the 2-visit group with a rate of 4%<sup>11</sup>. The difference was not statistically significant. Summarizing the ease of a single-visit root canal treatment: Immura and Zuolo (1995), Ashkenaz (1984) and Wahls (1996); that the approach is not the answer to all clinical conditions; However, operator skill, knowledge and patient selection are very important to achieve success in a single visit approach.

**MATERIALS AND METHODS:**

This cross sectional Study was held in the Operative Dentistry and Endodontics Department of Nishtar Hospital, Multan for one year duration from January 2018 to January 2019.

Thirty-six mandibular molars requiring root canal treatment were selected from healthy patients who visited the Department of Operative Dentistry and Endodontics between the ages of 18-30. The teeth were divided into three groups of equal numbers of teeth; In Group A, B and C Group A, single visits, two visits in group B and multiple visits in group C were used. Preoperatively intraoral periapical radiography was performed following the technique of bisection. Selected tooth dike is isolated with rubber. After the Grossman technique, root canals were prepared. The instrumentation was performed according to the exact length of the work. The canals were watered, dried and filled with Guttapercha and sealant by lateral condensation technique. Postoperative radiography was performed to confirm the filling. The access space was covered with zinc phosphate cement and filled with silver amalgam. A periapical radiography was performed. The total procedure was performed under solid aseptic conditions in one session in group A, two sessions in group B, and multiple sessions in group C. The patients were told not to chew them for eight hours. They were asked to report immediately in the event of pain, discomfort and / or swelling. In addition, patients were instructed to report 6 weeks, 12 weeks, 6 months and 12 months for clinical, radio and logical follow-up. During each follow-up examination, patients were examined clinically for integrity, pain, discomfort and / or swelling. This tooth was taken to the radiograph and the decrease / increase in peri-apical radiography was measured. Data was saved and compiled.

**RESULTS:**

The concept of root canal treatment on a visit is not new; however, there is still debate about its effectiveness and suitability in routine use. This study was carried out by comparing different approaches to the improvement of periapical radioactivity. The decrease / increase in periapical radiolucency was observed after six weeks, 12 weeks, six months and 12 months observation. For the calculations, periapical radiological functions in mesial and distal roots were combined. At each follow-up, patients were examined clinically for integrity, pain, discomfort and / or bloating. In Group A, one patient reported the following day as a symptom of an

outbreak. The tooth was removed and the patient received anti-inflammatory drugs, which then relaxed. All other patients were clinically successful. A single outbreak cannot be associated with the technique. Imura and Zuolo (1995) reported that the incidence of outbreaks was much higher compared to

the single-visit approach with a multiple-visit approach. Mulhern et al. (1982) and Fava (1995) reported that postoperative pain was minimal after a one-time treatment. The radiological results are shown in Table 1.

TABLE I: GROUPWISE DECREASE IN RADIOLUCENCY IN MILLIMETERS

Group	IPO	6W	12W	6M	12M
A. Mean	8.31	6.37	4.37	2.18	0.59
Percentage		25.34	47.41	73.76	94.26
B. Mean	7.96	5.91	4.17	2.65	1.12
Percentage		25.75	47.61	66.70	85.95
C. Mean	8.16	6.17	4.21	2.76	1.08
Percentage		24.38	48.40	66.17	86.76

(IPO = Immediate Post Operative W = Weeks M= months)

The average reduction in periapical radioactivity in Group A is 6.37 after 6 weeks, after 12 weeks 4.37, after 6 months 2.18 and 12 months 0.59. The percentage decrease was 25.34, 47.41, 73.76 and 94.26, respectively (Table 1). In group B, the mean decrease was 5.91 after 6 weeks, 4.17 after 12 weeks, 2.65 after 6 months and 1.12 after 12 months. The percentage decrease was 25.75, 47.61, 66.70, and 85.92, respectively (Table 1). In group C, the mean decrease was 6.17 after 6 weeks, 4.21 after 12 weeks, 2.76 after 6 months and 1.08 after 12 months. The reduction was 24.38, 48.40, 66.17 and 86.76%, respectively (Table 1). Statistically, there was no difference between the groups.

### DISCUSSION:

Fava (1994) 5 found no difference between two root canal treatments in an appointment and anterior teeth with calcium hydroxide. In addition, he did not report any difference with three different instrumental techniques in postoperative pain<sup>12</sup>. Stamos et al. (1987) advocated the use of ultrasound to treat a single-visit root canal. When the root canal treatment failure factors were examined, Pekruhn (1986) 11,12 and Vive (1991) reported that only 8.6% of failures were reported due to poor endodontics, and the remainder was caused by several other causes, especially back and center preparation and periodontal problems<sup>13</sup>. Southard (1984) treated acute periapical abscess in root canal therapy at a single visit, while Boggia (1983) 2 treated septic root canal with single visit therapy with endometasone<sup>14</sup>. The study greatly increases the efficacy of single-visit

radicular canal treatment with any sealant, preferably a calcium hydroxide preparation. Ashkenaz (1984) 1, a single-visit treatment should be done only by expert workers said<sup>15</sup>. Wahls (1996) warned that comprehensive information on morphology and efficiency in obstruction techniques is essential for success in single-visit root canal therapy.

### CONCLUSION:

One-off root canal treatment can be recommended as a treatment method because it saves time in the fast-moving world of today.

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