ABSTRACT

Background: Gangrenous pulp is the death of pulp tissue, most often caused by ischemia due to a bacterial infection. Gram-negative bacteria multiply and die in the apical root canal, then release lipopolysaccharide (LPS), which goes out through the apical foramen into the periapical and cause periapical abnormalities. Purpose: This research studies the correlation between diameter of the apical foramen and size of the periapical lesions. Method: Miller needle is inserted into the root canal before tooth is extracted to know the location of apical foramen and periapical photo is taken. Measurements of apical foramen diameter using miller needle which inserted into the root canal and marked, and measured using a micrometer screw. Periapical photo scanned and enlarged three times using Adobe Photoshop CS3. Periapical lesion diameter was calculated on the photo from the apical foramen using calipers. Distortion of periapical photos is calculated using formulas. Thus actual lesion diameter is obtained. Results: The results were analyzed using Pearson's correlation with sig (2-tailed)> 0.05. Conclusion: There is no correlation between the diameter of the apical foramen and the size of the periapical lesions.

Key words: apical foramen diameter, periapical lesions, radiographic image