Vibration Pattern of Different Endosonic Instruments

Madiha M Gomaa* , Inas S Samy**, Mahmoud M Farag***, Nagueb Abul Enein****

Abstract:

Aim: This research was done to study the vibration patterns and displacement amplitudes of different designs endosonic files both in air and in water, to explain their efficiency and correlate it to their clinical performance.

Materials and methods: Three types of endosonic enlarging files were used in this study, namely, the K-type and the Diamond coated files. Three brands and three sizes of each type were investigated. One source of vibration ‘’ultrasonic unit’’ was used with all the files studied. The study was done by means of a travelling microscope and a stereo-microscope. It resulted in 30 detailed vibration patterns (in air and in water).

Results and conclusions: Vibration pattern study is useful and convenient method for determining the potential clinical efficiency of an endosonic instrument. Files of the same design type and the same size can be ranked according to their vibration patterns. Vibration in water decreases the displacement amplitude in all sizes examined.