

RADIOPACITY AND MICROHARDNESS STUDY OF SELECTED TYPES OF DENTAL COMPOSITES USING A COMPUTERIZED METHOD

Mohamed M. Shehata*

Radiopacity is thought to be one of the essential requirements of composite resin restorative material as well as good mechanical properties.

The objective of this research work was to compare radiopacities of selected types of posterior composites and to detect if there is a correlation between radiopacity of these types and their hardness numbers. Material and Methods: Radiographs were taken for specimens of five commonly used posterior composites, then scanned to form bitnap images which were analysed using Gray levels. Moreover, the hardness numbers were recorded and thermogravimetric analysis (TGA) was performed to help in evaluation of these materials.

The radiographs showed different degrees of radiopacities among the tested samples with approximately a direct positive correlation between the Gray levels and the hardness numbers.

There was a positive direct correlation between the hardness number and the radiopacity of composite resin restorative materials, this may be due to differences in the organic-inorganic proportions and/or the type of radiopacifier.

*Assistant Professor, Dental Materials Dept., Faculty of Dentistry, Tanta University.