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Comparison of in vitro cytotoxicity and genotoxicity of MMA-based polymeric materials and various metallic materials

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Abstract: To determine the in vitro cytotoxicity and genotoxicity of some polymeric and metallic implant materials used as base materials in dentistry, based on ISO (International Organization for Standardization) and OECD (Organization for Economic Co-Operation and Development) test protocols. Materials and methods: Three different acrylate-based polymeric materials were tested for their in vitro cytotoxicity and genotoxicity (polymethylmethacrylate microspheres [PMMA], a solid cement

prepared by mixing PMMA with its monomer methylmethacrylate [PMMA+MMA], a solid cement prepared by mixing PMMA, MMA, and hydroxyapatite [PMMA+MMA+HA], as wells as 4 different metallic materials