

# Brazilian Oral Research

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## Abstract





[PARIZI, Jos?Luiz Santos](#) et al. Assessment of methyl methacrylate vapor toxicity on the rat tracheal epithelium. *Braz. oral res.* [online]. 2005, vol.19, n.3, pp. 223-227. ISSN 1806-8324. doi: 10.1590/S1806-83242005000300012.

Methyl methacrylate (MMA) is a monomer that is polymerized into resin by light and heat, producing a clear, resistant, durable and relatively inert plastic material. Because of these characteristics, MMA is largely used in Medicine as bone cement and in Dentistry, in dental braces and prostheses, thus generating continuous interest in its toxicity. Experimental and clinical studies have documented that monomers may cause a wide range of adverse health effects. The most important occupational exposure route of MMA is by inhalation. This study aims to evaluate the toxicity of MMA to the tracheal epithelium, according to the time of exposure. For this purpose, two experimental groups of rats were exposed to MMA by inhalation under poor ventilation: one group (n = 36) was exposed permanently, and the other (n = 36) was exposed during 8 hours per day, without water and food supply during the exposure period. A control group (n = 8) received normal air supply. Twelve animals of each study group were sacrificed after 5, 8 and 10 days of exposure together with two or four control animals. Twenty-nine (80.5%) of the rats continuously exposed to MMA developed inflammation on the tracheal epithelium, as well as 58.33% (n = 21) of those exposed 8 h/day and 87.5% (n = 7) of the control rats. No association was observed between the inflammatory process and MMA exposure; no significant alterations in the tracheal epithelium thickness were observed. Further studies on longer exposure times and analysis of other parameters will have to be conducted to exclude the possibility of tracheal damage by vapors of MMA.

Keywords : Methylmethacrylate; Trachea; Toxicity.

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