

## Polymethylmethacrylate dermal fillers: Evaluation of the systemic toxicity in rats

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This study evaluated local and systemic reactions after an intravascular injection of polymethylmethacrylate (PMMA) at two concentrations in a murine model. Thirty rats were divided equally into three groups: 2% PMMA, 30% PMMA, and a control group (normal saline only injection). The filler was injected into the ranine vein. The rats were sedated at 7 and 90 days and a clinical evaluation performed. After euthanasia, the right lung, liver, and right kidney were removed, weighed, and microscopically analyzed. The submandibular lymph nodes and tongue were removed and examined microscopically. Serum was subjected to liver and kidney function tests. No groups showed clinical alterations. Microspheres were not observed at any distant organ. Two samples from the 2% PMMA group showed a local inflammatory response at day-7 and another two samples from the 30% PMMA group at day-90. The group injected with 30% PMMA presented higher levels of alanine aminotransferase ( $P = 0.047$ ) after 90 days when compared with the other groups. The data obtained in this study demonstrate that intravascular injections of PMMA fillers show potential health risks such as chronic inflammation at the implantation site.

### Biography

Clarissa C. G. Medeiros, DDS, has achieved her master's degree (M.Sc.) from the graduate program in Oral Medicine of the Pontifical Catholic University of Rio Grande do Sul (PUCRS), Porto Alegre, RS, Brazil. She is currently enrolled as a Ph.D. student in the same academic program, at PUCRS. She is also a member of the dental surgery staff of the Dentistry Department at Santa Casa de Misericórdia Hospital, Porto Alegre, RS, Brazil.

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