



Does milling one-piece titanium dental implants induce osteocyte and osteoclast changes?

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Résumé en anglais	<p>SummaryOne-piece dental implants avoid adverse effects sometimes associated with the traditional implant-abutment interface and may provide a suitable alternative to two-piece implants; however, one-piece implants often need in situ milling, which may exacerbate cell apoptosis from excessive heat at the bone-implant interface and induce secondary crestal bone loss. Twelve implants were placed in the metaphyses of two sheep under general anesthesia. Six implants were milled with a diamond bur while the other six implants remained intact. Animals were euthanized after four days, and bone blocks were harvested. Bone samples were studied without decalcification. Osteocytes were stained with Hoechst 33342 and osteoclasts by the TRAcP reaction. Both cell types, in the cortical and trabecular bone around the implant's cervical region, were counted utilizing morphometric methods. Values were compared to areas at a distance from the cervical region. No difference was observed between milled and unmilled implants, which suggested that the amount of generated heat did not provoke osteocyte loss or induce osteoclastogenesis. Intraoral abutment preparations did not increase cellular apoptosis at the bone-implant interface after four days in the ovine model.</p>
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Liens

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