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## **Early Bone Response to Dual Acid-Etched and Machined Dental Implants Placed in the Posterior Maxilla: A Histologic and Histomorphometric Human Study.**

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### **Abstract**

#### **PURPOSE:**

To compare the early bone response to implants with dual acid-etched (DAE) and machined (MA) surface, when placed in the posterior human maxilla.

#### **MATERIALS AND METHODS:**

Fourteen patients received 2 implants in the posterior maxilla: 1 DAE and 1 MA. After 2 months, the implants were retrieved for histologic/histomorphometric evaluation. The bone-to-implant contact (BIC%), bone density in the threaded area (BDTA%), and the bone density (BD%) were calculated. The Wilcoxon matched-pairs signed rank test was used to evaluate differences (BIC%, BDTA%, and BD%) between the surfaces.

#### **RESULTS:**

In the MA implants, a mean ( $\pm$ SD) BIC%, BDTA%, and BD% of 21.76 ( $\pm$ 12.79), 28.58 ( $\pm$ 16.91), and 21.54 ( $\pm$ 11.67), respectively, was reported. In the DAE implants, a mean ( $\pm$ SD) BIC%, BDTA%, and BD% of 37.49 ( $\pm$ 29.51), 30.59 ( $\pm$ 21.78), and 31.60 ( $\pm$ 18.06), respectively, was reported. Although the mean BIC% of DAE implants value was almost double than that of MA implants, no significant differences were found between the 2 groups with regard to BIC% ( $P = 0.198$ ) and with regard to BDTA% ( $P = 0.778$ ) and BD% ( $P = 0.124$ ).

#### **CONCLUSIONS:**

The DAE surface increased the periimplant endosseous healing properties in the native bone of the posterior maxilla.