

Vascular Changes in the Monkey Mandible and Maxilla After Multiple Extraction of Teeth: A Radiographic Study

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The main purpose of this research was to investigate probable modifications of normal patterns of arterial distribution occurring in mandibular and maxillary alveolar bone after multiple extraction of teeth.

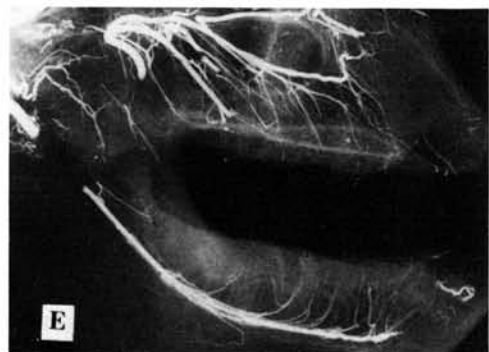
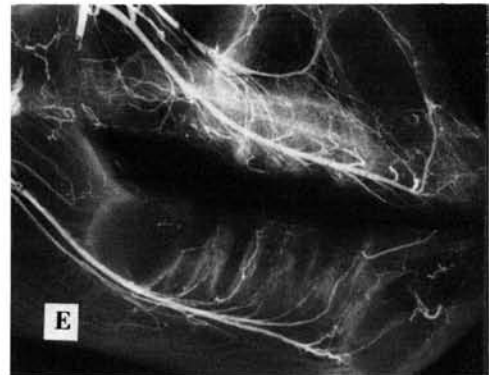
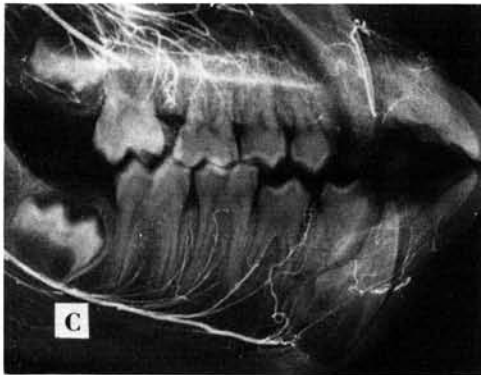
Eight adult rhesus monkeys were used. In each monkey, all mandibular and maxillary teeth on the right side were extracted in a single surgical session. The left side served as the control. One monkey was killed at 7 days, one at 15 days, and one monthly to six months postoperatively. A radiopaque medium was injected through the carotid pathways for arteriography. Vascular changes noted on the side operated on included: (1) a high increase in vascularity in the alveolar bone specimens from the monkey killed seven-days postoperatively as judged by the final dis-

tribution of the interseptal and interalveolar arteries; and (2) the vessels cupped around the alveolar cavities where active blood clot organization was in progress. The physical appearance of the parent interalveolar and interradicular vessels was similar to that seen in the control sides, except they showed a greater tortuosity about the cervical third of the alveoli (Fig, top).

In the specimen from the monkey killed one month postoperatively, the increased vascularity was maintained; however, the height of the alveolar bone decreased approximately 15%. In specimens from monkeys killed up to six months postoperatively, the main vascular finding was a general decrease in the arterial supply to the alveolar bone, especially in the mandible, with a considerable shortening of the former interalveolar and interradicular branches. In general, these vessels maintained their original regional distribution in the bones (Fig, bottom).

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Top, seven-days postoperative; and bottom, four-months postoperative. C, control; E, experimental.