

## Air Rotor and Clinical Micromotor Induced Sensory Loss

### TO THE EDITOR:

An air rotor and a clinical micromotor are invaluable tools in the practice of dentistry. A 32-year-old dental surgeon who had been using these two instruments for the past 6 years presented with numbness over the dorsal aspect of the first web space and adjoining area of the right hand of 6 months' duration. A sensory examination revealed the absence of fine touch, diminished pain, and intact perception of temperature over the area (Fig. 1). There was no wasting of muscles. Peripheral nerves, namely the radial, ulnar, median and cutaneous branch

of the radial nerve, did not show features suggestive of neuritis.

Low frequency-high amplitude vibrations are known to sensitize digital vessels in susceptible persons, although the reason for susceptibility remains unknown (<sup>1</sup>). Occlusive arterial disease may follow vasospasm following repeated trauma to the palmar and digital arches (<sup>1</sup>). Individuals prone to suffer include stone cutters, chain saw users, riveters, pianists, and typists (<sup>2</sup>). A vibration injury may lead to nerve damage, producing sensory loss and weakness of muscles of the hand (<sup>1</sup>). The authors feel

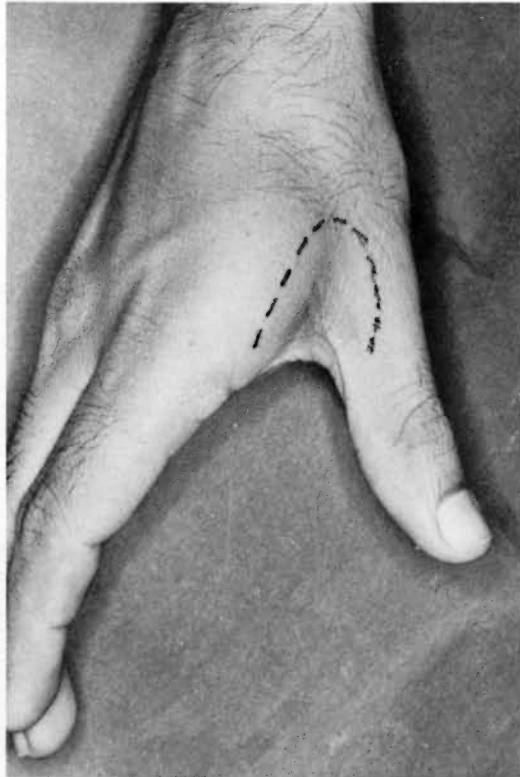


FIG. 1. Area showing sensory loss.



FIG. 2. Air rotor in contact with hypoesthetic skin.

that an air rotor and a clinical micromotor (Fig. 2) with 500 to 300,000 revolutions per minute may either directly involve the sensory nerves or may act indirectly by inducing occlusive vascular disease of vasa nervosum which supply the sensory nerves, eventually resulting in sensory loss over the area of the skin it comes in contact with.

—C. R. Srinivas, M.D.

*Assistant Professor  
Department of Dermatology  
and STD*

—C. Balachandran, M.D.

*Lecturer  
Department of Dermatology  
and STD*

—K. S. Bhat, M.D.S.

*Department of Operative Dentistry*

—B. K. Motwani, M.D.

*Department of Prosthodontics*

—S. N. Rao, D.M.

*Associate Professor  
Department of Neuromedicine*

—R. Subramanya, D.M.

*Assistant Professor  
Department of Neuromedicine  
Kasturba Medical College and  
Hospital and College of  
Dental Surgery  
Manipal, Karnataka 576119, India*

## REFERENCES

1. BRAVERMAN I. M. Connective tissue (rheumatic) diseases. In: *Skin Signs of Systemic Diseases*. 2nd ed. Philadelphia: W. B. Saunders Company, 1981, p. 352.
2. Schatz, I. J. Vibration induced white finger. *Lancet* 1 (1976) 51.