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Intraarterial Injection of 2.5% Thiamylal Does Cause Gangrene

To the Editor:—The reply to the question, "Does 2.5% thiopental cause gangrene?"¹ is affirmative in the literature² as well as in our experience. In the former, Waters² cited a case, as a personal communication from Prof. T.C. Gray, where the injection of 2.5% solution into an artery on the hand resulted in gangrenous fingers.

In our case, similar to Dr. Taff's patient,¹ 5 ml of 2.5% thiamylal was injected into a radial artery. This happened accidentally while we were treating a 64-year-old woman who developed generalized convulsions. Cyanosis and swelling of the entire hand occurred, followed by gangrene of the thumb, index and middle fingers, and the palmar region. A stellate ganglion block

and axillary block were performed twice daily for 15 days along with low-dose heparin therapy. Although these treatments appeared to reduce the area of gangrene, necrosis of the middle and distal phalanges of the index finger occurred (fig. 1). The critical hemodynamic state of our patient might have contributed to this necrosis; however, experimentally, partial necrosis of the rabbit ear has been reported following intraarterial injection of 2.5% thiopental.³

Therefore, we believe the answer to the question is affirmative, and therefore that intraarterial injection of 2.5% thiopental or thiamylal should be avoided rigorously.

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REFERENCES

1. Taff RH: Intra-arterial thiopental. *ANESTHESIOLOGY* 57:543, 1982
2. Waters DJ: Intra-arterial thiopentone. A physico-chemical phenomenon. *Anaesthesia* 21:346-356, 1966
3. Mather JS, Goodhead B: Intra-arterial methohexitone and thiopentone. The effects of LMW dextran (Rheomacrodex) infusion on the subsequent injury. *Anaesthesia* 21:81-85, 1966

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FIG. 1. A picture of a left hand 20 days following the intraarterial injection of 2.5% thiamylal through the radial arterial line.

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Intraarterial Thiopental

To the Editor:—To the best of my knowledge, the first and possibly only documented follow-up of sequelae following certain intraarterial injection of thiopental in a large series of patients was published by me in 1956¹ and repeated in *Intravenous Anaesthesia*² in 1974. This

was carried out by a questionnaire to about 100 departments in England and the United States dealing with the incidence of arterial injection (estimated 1:3,500) and details of cases. The authors reporting all of these cases were contacted subsequently and accuracy