

Letters to the editor

Maxillary bone defect by infraorbital nerve block

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To the editor:

Recently, we experienced a patient with trigeminal neuralgia of the maxillary branch, whose maxillary bone had a small defect which was suspected to have been

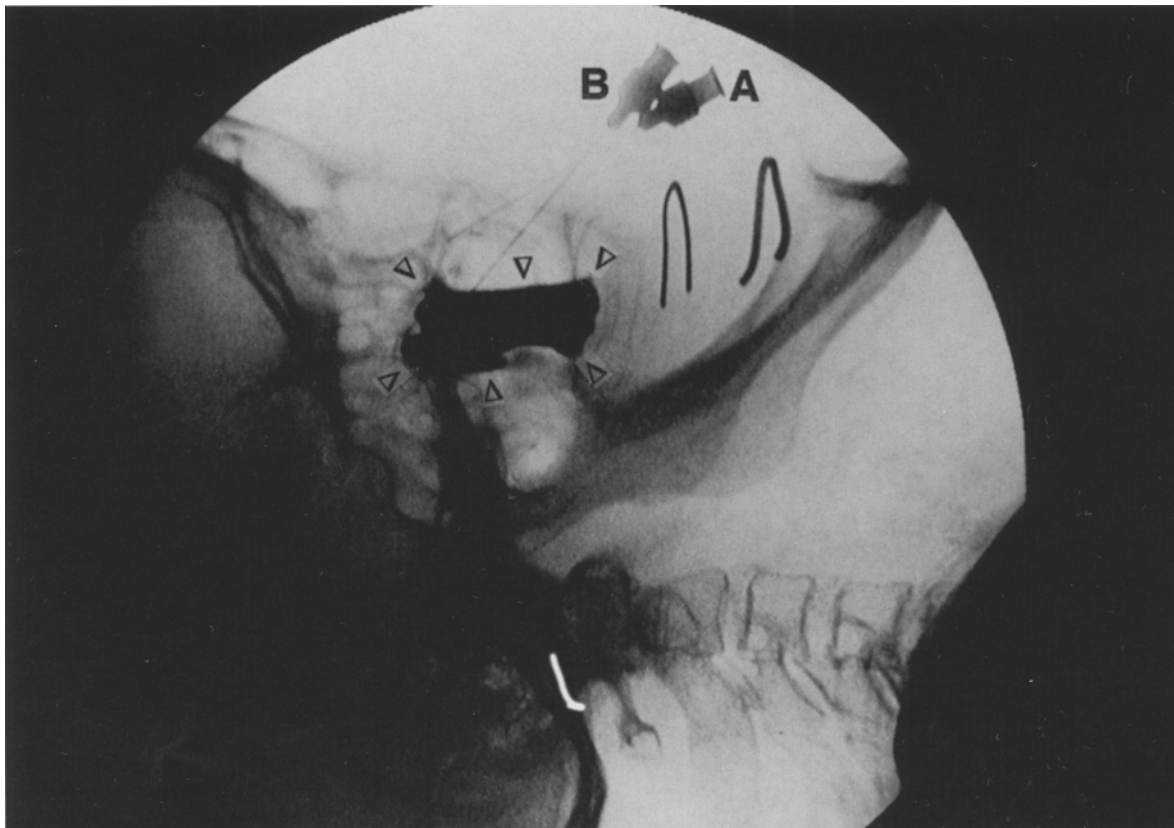


Fig. 1. Lateral view of the infraorbital nerve block. The needle (A) is located in the infraorbital canal and another needle (B) punctures the ethmoid sinus. The shadow surrounded by arrow heads indicates 5 ml of radiopaque material in the sinus

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caused by previous repeated nerve blocks. In this case, we performed the block under image intensifier and confirmed the bone defect connecting to the ethmoid sinus.

A 82-year-old female patient who had suffered from trigeminal neuralgia of the right maxillary branch for the previous 10 years was introduced to our outpatient clinic with severe pain of the right upper lip. The patient had been treated by infraorbital nerve block, which was repeated five times during 10 years. She had no remarkable medical history or previous oronasal surgery. A 4-cm, 21-gauge blunt needle was introduced through a skin wheal made 1 cm laterally to the middle part of the ala nasa and advanced superiorly and laterally. Though the needle fixation in the foramen was felt, no paresthesia was elicited to the area of the infraorbital nerve. A negative aspiration test caused massive air drainage into the syringe. Though the insertions were carefully tried three times, air was aspirated every time. We gave up the procedure.

We performed the alcohol block under image intensifier 2 days later. The same procedure again caused aspiration of air. Infusion of radiopaque material (5 ml) revealed the shadow of the ethmoid sinus in the lateral view (Fig. 1). The infraorbital canal was observed below the orbital rim on the anteroposterior view. We slowly advanced the needle at 30° to the skin surface until the

needle was inserted into the canal, watching the image intensifier. Then, paresthesia was elicited radiating to the upper lip. After a negative aspiration test, 0.5 ml of 2% lidocaine was injected. Ten minutes after this application, 0.3 ml of absolute alcohol was injected. The patient's trigeminal pain disappeared and subsequent recovery was uneventful.

Some patients treated by infraorbital nerve block develop bleeding and hematoma, maxillary sinus puncture, diplopia, and eyeball injury. The site of maxillary sinus puncture is thought to be in the infraorbital canal [1], because bone in the foramen is extremely thin. In this case, the defect of maxillary bone was located at approximately 5 mm below the orifice. This suggests that multiple needle insertions destroyed the frontal wall of maxillary bone where the needle initially hit every time. Previous procedures might also have been used with a sharp needle, which more easily causes damage to the maxillary bone. Our present experience suggests that atraumatic needle insertion and a negative aspiration test are crucial to the success of an infraorbital nerve block.

References

1. Yamamuro M (1984) Illustrated techniques and principles for treatment of pain (in Japanese). Chugai Igaku, Tokyo, pp 242–270