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Letter to Editor

Nerve block therapy for subacute thyroiditis following COVID-19 vaccination: The first case report



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To the editor,

Subacute thyroiditis (SAT) is a self-limited inflammatory thyroid disease caused by viral infection.¹ Recently, some studies reported that patients may develop SAT after COVID-19 disease or following COVID-19 vaccination.^{2,3} Currently, the controversial

treatment of SAT is the use of glucocorticoids. However, Systemic (oral) long-term glucocorticoid administration has some side effects.⁴ Herein, we report a case of SAT in a patient following COVID-19 vaccination. We adopted an Ultrasound-guided percutaneous lidocaine-dexamethasone mixture injection protocol outside the thyroid capsule to block local nerve conduction for the patient. She was cured in one week and no recurrence was observed during the half-year follow-up. To our best knowledge, this is the first case report of this kind.

A 65-year-old female visited the outpatient department of our hospital with the symptoms of swallowing pain of right neck, headache, pyrexia, and fatigue following COVID-19 vaccination for seven days. She was diagnosed with SAT based on laboratory findings, clinical manifestation, and ultrasound imaging. Considering the patient had a history of diabetes, we thought the protocol of oral glucocorticoid therapy was inappropriate. Previous literature has reported the therapy of Ultrasound-guided intrathyroidal injection

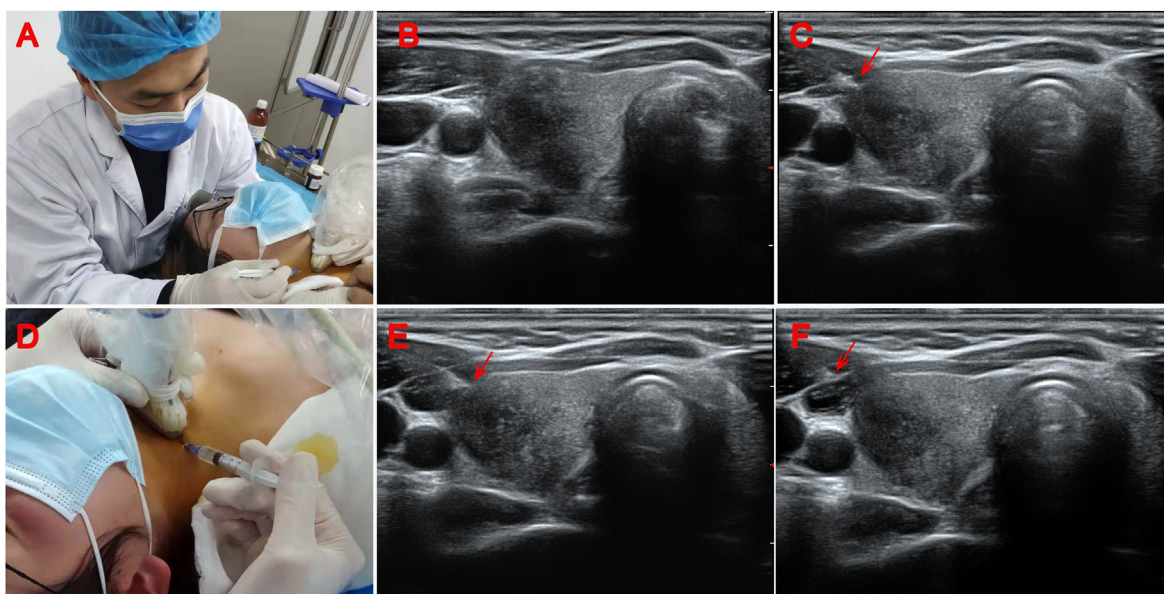


Fig. 1. Procedures of nerve block therapy for subacute thyroiditis. A) The position before operation. B) Ultrasound image before operation. C) & D) & E) During injection therapy. F) Ultrasound image after injection therapy. Notice: The red arrow indicates the tip of a needle.

Abbreviations: SAT, Subacute thyroiditis; COVID-19, Coronavirus disease 2019.

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of steroids for SAT is effective and safe.⁵ In the beginning, we decided to adopt this approach. However, during the actual operation, we found it was difficult to perform the procedure successfully due to the coarse texture of the thyroid lesions. Furthermore, in clinical practice, we often found that the neck pain was generally mild if the lesions were confined to the gland but not in the capsule, while the pain symptoms were obvious if the lesions were near the capsule. Based on these, we hypothesized that the neck pain may be caused by inflammatory lesions stimulating the cervical plexus nerve. Therefore, we improved the treatment by injecting the thyroid capsule with a mixture of 2% lidocaine (1 ml) and 0.5% dexamethasone (1 ml) using a 2.5-ml syringe.

The patient had no special discomfort during the procedure. A significant reduction in neck pain 3 h after injection treatment, and the systemic symptoms disappeared on the second morning. Three injections were administered, with one injection every other day for an effective half-life of 48 h of dexamethasone. The patient didn't complain of neck pain symptoms until given the COVID-19 vaccine again two weeks later. We took the same approach in this study and she has healed again one week later. This technique has yielded favorable results and there were no adverse reactions during the injection and follow-up. No recurrence occurred after a six-month follow-up period. The operation process is shown in Fig. 1.

In conclusion, an Ultrasound-guided nerve block at the thyroid capsule for the treatment of SAT is a promising approach for the reduction in the length of treatment, avoiding the side effects that may result from long-term oral glucocorticoids. However, larger-scale studies are needed to validate its efficacy and safety.

Declaration of competing interest

The authors declared no competing interests.

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