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Subacute Thyroiditis Is Treated Effectively by a Low Dose of Prednisolone

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Kubota S, Nishihara E, Kudo T, Ito M, Amino N, Miyauchi A. Initial treatment with 15 mg of prednisolone daily is sufficient for most patients with subacute thyroiditis in Japan. Thyroid. December 10, 2012 [Epub ahead of print].

SUMMARY

Background

Subacute (granulomatous, DeQuervain's) thyroiditis is an uncommon condition that has been treated with either nonsteroidal antiinflammatory drugs (NSAIDs) or corticosteroids for many years. The response to steroids is often more dramatic and quicker than the response to NSAIDs, but physicians are reluctant to use corticosteroids for this usually self-limited disorder because of their well-known side effects. The usual initial dose is 40 mg of prednisone. The basis for this dose has not been established by prospective studies. The current report is an evaluation of the efficacy of a prednisolone dose of 15 mg per day for 2 weeks, with reduction of the dosage by 5 mg every 2 weeks, as patients are carefully followed.

Methods

Subacute thyroiditis was diagnosed based on the criteria of swelling, pain, and tenderness within the thyroid gland associated with increased FT_4, decreased TSH, increased C-reactive protein (CRP), and a hypoechoic area in the thyroid ultrasonogram corresponding to the tender area. Patients were treated with 15 mg of prednisolone per day for 2 weeks with reduction of the dose by 5 mg every 2 weeks for 6 weeks. If pain continued or the CRP remained high, prednisolone treatment was extended and then tapered over 12 weeks. All patients received "anti-ulcer" drugs.

Results

From February 2005 through December 2008, the diagnosis of subacute thyroiditis was made in 384 patients; 54 were not treated with medication, 33 were treated with NSAIDs, 9 dropped out of the treatment protocol, 69 violated the protocol, and 219 followed the protocol and are the subjects of this report. Patients were followed every 2 weeks.

The mean age of the patients was 49 years, 88% were women, and the mean weight was 55 kg. The mean FT_4 was 2.5 ng/dl (normal range, 0.7 to 1.6) and the mean FT_3 was 7.15 pg/ml (normal range, 1.70 to 3.70); FT_4 was elevated in 80% of the patients.

Thyroiditis improved in 6 weeks and did not recur in 113 patients (51.6%); 106 patients took prednisolone for 7 weeks or longer and 27 of them took prednisolone for more than 12 weeks. Seven patients required >15 mg per day; 2 of these patients were treated with 30 mg per day and 5 with 20 mg per day. About 20% took more than 8 weeks to recover. There was a significant negative correlation between the FT_4 and the duration of therapy and between the FT_3 and the duration of therapy.

Transient hypothyroidism occurred in 31% of patients, and permanent hypothyroidism was found in only 3.6% of patients.

Conclusions

Subacute thyroiditis can be treated effectively with a daily dose of 15 mg of prednisolone for 2 weeks and subsequently tapering by 5 mg per day every 2 weeks.

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ANALYSIS AND COMMENTARY

This study is a valuable clinical contribution to thyroidology because it is the first study that analyzed the response to corticosteroid therapy in a large population of patients with subacute thyroiditis. Treatment with about half of the usually recommended steroid dose was effective in ameliorating the disorder in 80% of patients within 8 weeks. Because the mean weight of these Japanese patients, mainly women, was only 55 kg, the 15-mg dose (0.27 mg per kilogram) would probably be equivalent to at least 20 mg of prednisone in a Western population.

The late Robert Volpé was an expert in this disorder and wrote an excellent review of its management (1). Volpé advocated a dose of 40 mg of prednisone, tapering it over 6 weeks. He noted that about 20% of patients will have a recurrence, necessitating the restoration of a higher dose, similar to the findings of the current report. Volpé expressed a preference for early initiation of steroid therapy, which is also the preferred therapy of the authors of this paper rather than initiating therapy with NSAIDs, as recommended by the guideline 96 of the ATA, before using prednisone therapy (2). The 6-week duration of corticosteroid therapy in this study is somewhat longer than that reported with empirical therapy of 49 patients in Minnesota with tapering of 40 mg of prednisone in 7 days and continuation of the reduced dose for only 30 days (3). However, two thirds of the group also received other therapy, probably NSAIDs.

It is interesting that the patients with higher thyroid hormone levels had faster restoration of normal levels with the glucocorticoid therapy and were more likely to be in the short-term medication group (6 weeks). The explanation suggested by the authors is that these patients had more destruction of their thyroid glands as compared with those who required a longer duration of therapy for resolution of the disorder. Presumably, the destruction reversed more quickly because the maximum destruction occurred at an earlier time—a unique hypothesis.

It is interesting that the authors followed the guidelines of the Japan Thyroid Association (www.japan-thyroid.jp/doctor/guideline/english.html#akyuu) and did not perform a radioactive iodine–uptake test to confirm the diagnosis. This is another instance in which ultrasonography is replacing the use of radioisotopes in clinical diagnosis.

References

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