

ORIGINAL ARTICLE

Role of low dose prednisolone in treatment of acute painful thyroiditis

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ABSTRACT:

Background: A condition known as thyroiditis is characterized by inflammation of the thyroid gland. The present study was conducted to assess the role of low dose prednisolone in treatment of acute painful thyroiditis. **Materials & Methods:** 48 patients with thyroiditis of both genders were administered prednisolone in a starting dose of 20 mg/day (10 mg twice daily) tapered over four weeks. The dose was 10 mg twice daily for 2 weeks and 10 mg once daily for next 2 weeks. Severity of pain, tenderness and ESR were noted at baseline, and repeated in 2 weeks. **Results:** Out of 48 patients 20 were males and 28 were females. Age group 20-30 years had 5, 30-40 years had 29 and 40-50 years had 14 patients. The mean pain on VAS at baseline was 7.4 and at 2 weeks was 1.2. The mean ESR rate at baseline was 54.8 mm/hour and at 2 weeks was 20.5 mm/hour. The difference was significant ($P < 0.05$). **Conclusion:** For subacute thyroiditis, 20 mg of prednisolone per day tapered over 4 weeks is an appropriate course of treatment. After two weeks, the dose can be significantly reduced.

Keywords: thyroiditis, prednisolone, ESR

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INTRODUCTION

A condition known as thyroiditis is characterized by inflammation of the thyroid gland. There are two primary categories of thyroiditis: painless and painful.¹ The most frequent cause of acute painful thyroiditis is subacute thyroiditis, also known as de Quervain's thyroiditis, which falls under the group of painful kinds of thyroiditis. Patients typically complain of odynophagia, edema, and neck pain when they see otorhinologists.² Examining the area around the thyroid gland reveals discomfort. Though the precise cause is uncertain, a viral inflammatory illness is believed to be the cause. The condition typically resolves on its own over several months, exhibiting a triphasic course of hyperthyroidism, hypothyroidism, and euthyroidism.³

For many years, corticosteroids or nonsteroidal anti-inflammatory medications (NSAIDs) have been used to treat subacute thyroiditis.⁴ Although the response to steroids is frequently faster and more dramatic than that to NSAIDs, steroids are notorious for having greater adverse effects than NSAIDs. Given that subacute thyroiditis is a self-limiting illness, some individuals may not benefit from high doses of steroids.⁵ Prednisolone is often started at a dose of 1

mg/kg per day and tapered over a period of six weeks; however, prospective studies have not yet established the rationale for this dosage.⁶ The present study was conducted to assess the role of low dose prednisolone in treatment of acute painful thyroiditis.

MATERIALS & METHODS

The present study was conducted on 48 patients with thyroiditis of both genders. All were informed regarding the study and their written consent was obtained.

Data such as name, age, gender etc. was recorded. Diagnosis was made according to history of anterior neck pain, tenderness thyroid region, tender and swollen thyroid gland, ultrasound of the neck showing increased vascularity of the thyroid gland and raised erythrocyte sedimentation rate (ESR). The patients were administered prednisolone in a starting dose of 20 mg/day (10 mg twice daily) tapered over four weeks. The dose was 10 mg twice daily for 2 weeks and 10 mg once daily for next 2 weeks. Severity of pain, tenderness and ESR were noted at baseline, and repeated in 2 weeks. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 48		
Gender	Male	Females
Number	20	28

Table I shows that out of 48 patients 20 were males and 28 were females.

Table II Age wise distribution

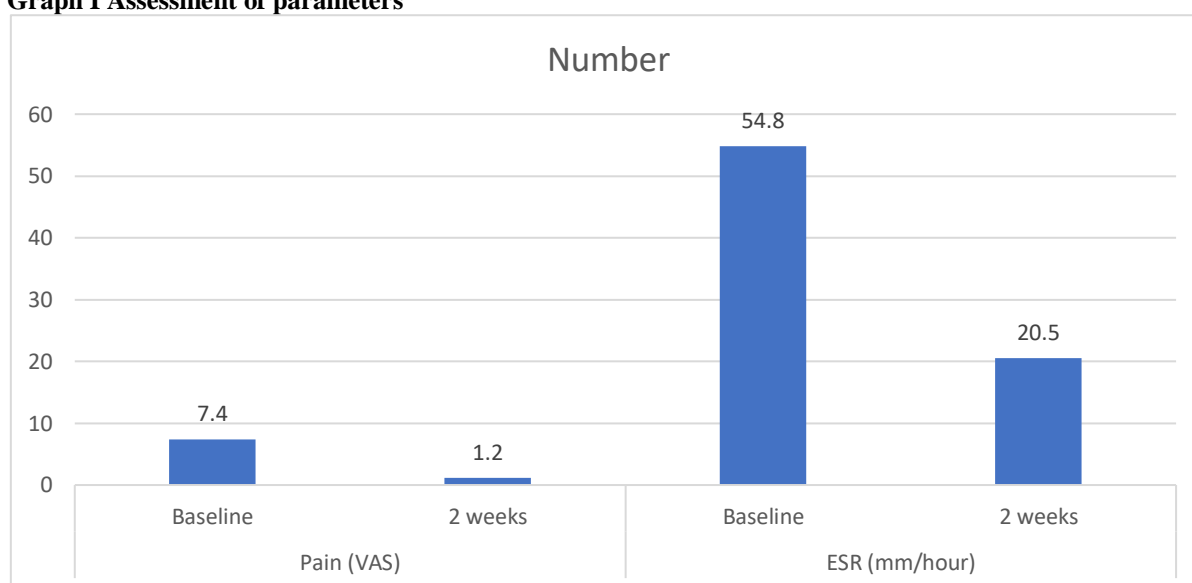
Age group (years)	Number	P value
20-30	5	0.76
30-40	29	
40-50	14	

Table II shows that age group 20-30 years had 5, 30-40 years had 29 and 40-50 years had 14 patients.

Table III Assessment of parameters

Parameters	Variables	Number	P value
Pain (VAS)	Baseline	7.4	0.02
	2 weeks	1.2	
ESR (mm/hour)	Baseline	54.8	0.01
	2 weeks	20.5	

Table III, graph I shows that mean pain on VAS at baseline was 7.4 and at 2 weeks was 1.2. The mean ESR rate at baseline was 54.8 mm/hour and at 2 weeks was 20.5 mm/hour. The difference was significant ($P < 0.05$).

Graph I Assessment of parameters

DISCUSSION

Subacute thyroiditis (SAT) (also called de Quervain thyroiditis or granulomatous thyroiditis) is a self-limited, possibly viral, inflammatory thyroid disorder usually associated with thyroid pain and systemic symptoms.⁷ Clinical features of SAT are well known and include thyroid pain with symptoms of hyperthyroidism, suppressed levels of TSH, low thyroid uptake of radioactive iodine, and elevated erythrocyte sedimentation rate.^{8,9} Diagnosis is based on clinical and laboratory data. Tissue diagnosis is rarely needed. Although the clinical features and outcome have been described in many non-population-based studies, community and incidence cohort studies are scarce.^{10,11} The present study was conducted to assess the role of low dose prednisolone in treatment of acute painful thyroiditis.

We found that out of 48 patients 20 were males and 28 were females. Koirala KP et al¹² assessed if prednisolone in lower initial dose (20 mg/day tapered over four weeks) is effective in patients with acute painful thyroiditis. One hundred and twenty-two patients of acute painful thyroiditis were included in

our study. Age of the patients ranged from 19 years to 69 years with the mean age of 36.58 years. Female to Male ratio was 10:1. Mean ESR was 57.03 at the time of presentation. ESR decreased to 29.63 at two weeks and 17.03 mm per hour (normal) at 4 weeks after continuation of the drug.

We found that age group 20-30 years had 5, 30-40 years had 29 and 40-50 years had 14 patients. Fatourechhi V et al¹³ found that the overall age- and sex-adjusted incidence from 1960 through 1997 was 4.9 cases per 100,000/yr. In the most recent 28-yr period (1970-1997), 94 patients were identified. In this group, pain was the presenting symptom in 96%. SAT recurred in 4% of the patients 6-21 yr after the initial episode. Corticosteroid therapy was given to 36%. Early-onset hypothyroidism occurred both in patients receiving corticosteroid therapy (29%) and in those not receiving corticosteroid therapy (37%). At latest follow-up, significantly more patients who had received corticosteroid therapy had a diagnosis of hypothyroidism than the group without corticosteroid therapy (25% vs. 10%, $P < 0.05$; overall rate of hypothyroidism, 15%). Early transient

hypothyroidism is common in SAT. Permanent hypothyroidism is less common, and only 15% of the patients are receiving T(4) therapy after 28 yr of follow-up. Symptomatic relief is achieved with corticosteroid therapy, but such therapy does not prevent early- and late-onset thyroid dysfunction.

We found that mean pain on VAS at baseline was 7.4 and at 2 weeks was 1.2. The mean ESR rate at baseline was 54.8 mm/hour and at 2 weeks was 20.5 mm/hour. Nishihara E et al¹⁴ reviewed the medical records of 852 patients (107 men and 745 women) with SAT. SAT developed most often in female patients aged 40 to 50 years, with significant seasonal clusters during summer to early autumn. While the rates of any virus infections and diseases did not differ from those in the general population, recurrent episodes of SAT at intervals of 13.6+/-5.6 years accounted for 1.6% of all cases. At the onset of SAT, 28.2% of patients had temperatures greater than 38 degrees C and typical symptoms associated with thyrotoxicosis developed in more than 60% of patients. Before treatment, most of the abnormal laboratory findings associated with thyrotoxicosis, inflammation, and liver dysfunction reached peak levels within 1 week after onset. Ultrasound examination showed that half of the patients with unilateral thyroid pain presented with bilateral hypoechoic area in the thyroid and the rate of bilateral hypoechoic area tended to increase 2 months after onset.

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that for subacute thyroiditis, 20 mg of prednisolone per day tapered over 4 weeks is an appropriate course of treatment. After two weeks, the dose can be significantly reduced.

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