

Effectiveness of Low Dose Prednisolone in Patients with Acute Painful Thyroiditis

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ABSTRACT

Background: Subacute thyroiditis (SAT) is an inflammatory thyroid disease with a background of possible viral etiology. The present study was conducted to assess effectiveness of low dose prednisolone in patients with acute painful thyroiditis. **Methods:** 70 patients of thyroiditis of both genders were administered prednisolone in a starting dose of 20 mg/day tapered over four weeks. The dose was 10 mg twice daily for 2 weeks and 10 mg once daily day for next 2 weeks. Outcome of treatment was assessed. **Results:** Out of 70 patients, males were 15 and females were 55. Pain was present in 70 at baseline which decreased to 15 after 2 weeks. The mean ESR was 58.2 at baseline which decreased to 22.5 after 2 weeks. Left side was involved in 34 at baseline which decreased to 8 after weeks and 34 in right side which decreased to 7 after 2 weeks. The difference was significant ($P < 0.05$). **Conclusion:** Steroid treatment with low dose prednisolone was effective against permanent hypothyroidism.

Keywords: Hypothyroidism, Prednisolone, Steroid.

INTRODUCTION

Thyroiditis is defined as a disorder that involves inflammation of the thyroid gland. Thyroiditis is mainly divided into two broad categories: painless and painful. Among the category of painful types of thyroiditis is subacute which the most common cause of acute painful thyroiditis.^[1] The patients usually present to the otorhinologists with complaints of neck pain, swelling and odynophagia.^[2] On examination, there is tenderness at the region of thyroid gland. Although the exact etiology is unknown, is thought to be a viral inflammatory disorder. The disorder is usually self-limiting over months with a triphasic course of hyperthyroidism followed by hypothyroidism and ending with euthyroidism.^[3]

Subacute thyroiditis (SAT) is an inflammatory thyroid disease with a background of possible viral etiology, and it manifests with clinical symptoms, including severe neck pain, fever, and fatigue. The diagnosis of this disorder is based on physical examination, clinical symptoms, laboratory, and ultrasonographic findings.^[4] SAT mostly presents with thyrotoxicosis and is followed by hypothyroidism before complete remission. Although SAT is a self-limiting disease within weeks, it requires treatment for the painful condition and thyrotoxicosis symptoms.^[5] The primary goal of

the treatment is relief of symptoms that can be provided by beta-blocker agents, NSAIDs, and steroids. Although there is no consensus on initial therapy, the recommended approach is to start treatment with NSAIDs in mild cases and steroids in severe disease.^[6] The present study was conducted to assess effectiveness of low dose prednisolone in patients with acute painful thyroiditis.

MATERIALS AND METHODS

The present study was conducted among 70 patients of 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 on case history proforma. Diagnosis was made based on history of anterior neck pain, tenderness thyroid region, tender and swollen thyroid gland. The patients were administered prednisolone in a starting dose of 20 mg/day tapered over four weeks. The dose was 10 mg twice daily for 2 weeks and 10 mg once daily day for next 2 weeks. Outcome of treatment was assessed. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table 1: Distribution of patients

Total- 70		
Gender	Males	Females
Number	15	55

[Table 1] shows that out of 70 patients, males were 15 and females were 55.

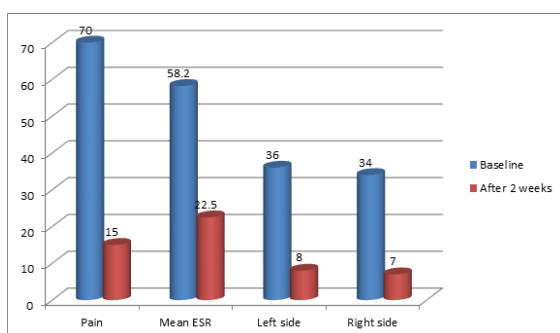
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Table 2: Assessment of parameters

Parameters	Baseline	After 2 weeks	P value
Pain	70	15	0.01
Mean ESR	58.2	22.5	0.02
Left side	36	8	0.15
Right side	34	7	

[Table 2, Figure 1] shows that pain was present in 70 at baseline which decreased to 15 after 2 weeks. The mean ESR was 58.2 at baseline which decreased to 22.5 after 2 weeks. Left side was involved in 34 at baseline which decreased to 8 after weeks and 34 in right side which decreased to 7 after 2 weeks. The difference was significant ($P < 0.05$).

**Figure 1: Assessment of parameters**

DISCUSSION

Subacute thyroiditis (SAT) is an inflammatory thyroid disease with a background of possible viral etiology, and it manifests with clinical symptoms, including severe neck pain, fever, and fatigue.^[7] The diagnosis of this disorder is based on physical examination, clinical symptoms, laboratory, and ultrasonographic findings. SAT mostly presents with thyrotoxicosis and is followed by hypothyroidism before complete remission.^[8] Although SAT is a self-limiting disease within weeks, it requires treatment for the painful condition and thyrotoxicosis symptoms. The primary goal of the treatment is relief of symptoms that can be provided by beta-blocker agents, NSAIDs, and steroids.^[9] Although there is no consensus on initial therapy, the recommended approach is to start treatment with NSAIDs in mild cases and steroids in severe disease, but there are not enough data in the literature about the short or long-term consequences of these therapies.^[10] The present study was conducted to assess effectiveness of low dose prednisolone in patients with acute painful thyroiditis.

In present study, out of 70 patients, males were 15 and females were 55. Koirala et al,^[11] conducted a prospective, cross sectional, observational study in the patients presenting with anterior neck pain of less than 1 week with tender thyroid on palpation and ESR more than 30mm/h were included in the study. The patients were administered prednisolone in a starting dose of 20 mg/day tapered over four weeks. 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. All the patients reported with severe pain in the anterior neck at the time of presentation. Pain was completely relieved in 115 patients (94%) at 2 weeks after starting the treatment and it was better than previous in seven patients.

We observed that pain was present in 70 at baseline which decreased to 15 after 2 weeks. The mean ESR was 58.2 at baseline which decreased to 22.5 after 2 weeks. Left side was involved in 34 at baseline which decreased to 8 after weeks and 34 in right side which decreased to 7 after 2 weeks. Sencar et al,^[12] conducted a study to relieve pain and control the inflammatory process. The aim of the present study was to evaluate the therapeutic effects of steroid and non-steroidal anti-inflammatory drugs (NSAIDs) in SAT. Initial laboratory data, treatment response, and long-term results of 295 SAT patients treated with ibuprofen or methylprednisolone were evaluated. After the exclusion of 78 patients, evaluation was made of 126 patients treated with 1800 mg ibuprofen and 91 patients treated with 48 mg methylprednisolone. In 59.5% of 126 patients treated with ibuprofen, there was no adequate clinical response at the first control visit. In 54% of patients, the treatment was changed to steroids in mean 9.5 days. Symptomatic remission was achieved within two weeks in all patients treated with methylprednisolone. 19.8% was the total recurrence rate and recurrences were found more often in patients receiving only steroid therapy than in patients treated with NSAID only. Persistent hypothyroidism developed in 22.8% of patients treated only with ibuprofen and in 6.6% of patients treated with methylprednisolone only. Treatment with only ibuprofen and positive thyroid peroxidase antibody (anti-TPO) were assessed as the main risk factors for permanent hypothyroidism. NSAID treatment is not as effective as steroid treatment in early clinical remission.

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that steroid treatment with low dose prednisolone was effective against permanent hypothyroidism.

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