

De Quervain's Thyroiditis: Current Concepts and Ayurvedic Treatment Options

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Abstract

De quervains thyroiditis is a self limiting granulomatous inflammatory disorder mainly caused by viral infection in individuals having a genetic susceptibility. The disorder is mainly characterized by symptoms like pain over thyroid gland, fever, features of thyrotoxicosis, and elevated erythrocyte sedimentation rate. This article deals with the current concepts in pathogenesis and pathophysiology of De quervain's thyroiditis and presents a case of de quervain's thyroiditis managed by treatment modalities available within ayurvedic domain. This case is presented to create awareness among practioners regarding different ayurvedic options available for management of De quervains thyroiditis.

Keywords

De Quervain's thyroiditis, Galaganda, Agni, Kanchanaraguggulu



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INTRODUCTION

Painful de quervain's thyroiditis is characterized by destruction of the thyroid parenchyma by inflammatory cells following an attack of upper respiratory tract infection mostly by viruses like EBV, CMV and HIV. The initial destruction of the thyroid parenchyma by polymorphonuclear cells leads to the leakage of colloid and its constituents into the circulation, which is followed by destruction of thyroid follicular epithelium by plasma cells, histocytes and giant cells leading to fibrosis. The disease typically follows an episode of viral upper respiratory tract infection causing fever and throat pain, followed by severe pain in the neck over an enlarged thyroid gland. There may be presence of associated symptoms like palpitations, sweating, nervousness and malaise. There is usually a period of hyperthyroidism initially which is followed by hypothyroidism, which later progresses to an euthyroid state due to regeneration of thyroid follicles and complete histological recovery.

CASE REPORT

A 28 year old male presented with complaints of pain in the neck and swelling in the neck for two weeks (Figure 1). He had

symptoms of an upper respiratory tract three weeks before. There was also an associated history of palpitations, sweating and fever for two weeks. On physical examination it was found that there was diffused enlargement of right lobe of thyroid gland with tenderness. Ultrasound of neck showed enlarged right thyroid lobe with hypoechoic nodules and increased surrounding vascularity. Thyroid function test values were as follows: T4 10.0 mg/dL (N 4.9-10.0), T3 175 mg/dL (N 99-195), and thyroid stimulating hormone (TSH) 0.1 uU/mL (N 0.4-7). Tc99 thyroid scan showed reduced uptake of tracer in the right lobe. Patient was given analgesics and after a few days subjected to FNAC in which the diagnosis was confirmed as De quervain's thyroiditis. The patient was given *kanchanar guggulu* 250 mg and anupana of *shigru patrakwatha* 20 ml twice daily till one month. *potalokaturohinikasayam* 10 ml twice daily for two months. Patient was followed up every month for six months along with thyroid function tests on every visit. The patient achieved euthyroid status on the third month after starting of the medicines. Patient was then given *brahmivati* 250 mg and *arogyavardhinivati* 250 mg twice daily for three months to

rejuvenate the patient. There was no evidence of residual thyroid dysfunction after six months of follow up.



Fig 1 Enlarged right lobe of thyroid gland.

DISCUSSION

Painful sub-acute thyroiditis (Dequervain's thyroiditis) is a rare granulomatous disorder of the thyroid gland with the ratio of about 1 in 50 among other thyroid disorders. It is the most common cause of painful thyroid gland, and is characterized by inflammation leading to destruction of the thyroid parenchyma and damage of the follicular epithelium leading to leakage of the colloid material into the blood circulation leading to a state of thyrotoxicosis which lasts for a duration of four to ten weeks. The initial inflammatory response characterized by influx of neutrophils is soon followed by influx of lymphocytes, plasma cells, and

histiocytes. Gradually the thyroid follicular epithelium is completely destroyed and replaced by a rim of giant cells leading to fibrosis. The thyroid gland is devoid of any colloid during this phase and is also incapable of producing adequate thyroid hormone leading to hypothyroidism. The hypothyroidism phase lasts for a duration of eight to ten weeks and is mild in nature. Supplementary thyroid hormones are rarely needed during this phase depending on patients signs and symptoms. As the inflammatory process subsides the follicular epithelium starts to regenerate and the euthyroid state is restored gradually.

The clinical presentation of the disease is typically making the diagnosis easier; the disease process usually begins with an upper airway infection, 3 to 6 weeks before the onset of complaints. The symptoms consisted of sudden fever, with unilateral enlarged and painful thyroid gland and referred pain to the jaw or ear. There are associated symptoms like palpitation, nervousness and malaise due to thyrotoxicosis. Ultrasound demonstration of hypoechogenic areas and blurred borders unilaterally is typical of the disease. The thyroid function tests show a typical pattern of hyperthyroidism initially which is



followed by hypothyroidism and later becomes euthyroid after a period of few months. It is usually unnecessary to treat with thyroid hormones during the phase of hyper and hypothyroidism, as it can cause more harm than benefits and can hamper the natural self limiting process of the disease. However treatment of features of thyrotoxicosis can be done. The FNAC typically shows normal and degenerated follicular cells with presence of multinucleated giant cells in the smear. As the recovery process involves regeneration of thyroid follicular cells, treatment with anti-thyroid drugs is not necessary. The only demerit is that it takes months or an year to recover completely. This is where the use of ayurvedic treatment methods helps to shorten the recovery time.

Ayurveda considers autoimmune or viral causes as main factors in development of these diseases, it also describes a very clear disease process and an in-depth understanding of what actually causes the immune dysfunction. In Ayurveda the initial causes are diet and lifestyle factors that imbalance the digestive fire (Agni) and metabolism and disturbs the balance of *doshas*(*Tridosha*), and *manasikadosha* leading to stress and imbalance of *ojas*.

Once the quality of *ojas* is disturbed the immune system begins to act improperly, attacking the thyroid gland and leading to a full blown autoimmune condition. This autoimmune condition then manifests as *galaganda*.

Various ayurvedic drugs are available which act as immunomodulators and fasten the regenerative process within the thyroid gland. The main ayurvedic drugs which help in regeneration of the thyroid gland viz., *Kanchanara Guggulu*, *Shigru Patra Kwatha*, *Brahmivatipatolakasayam*, *potolkaturohinikasayam*, *Arogyavardhiniati*, *pippali Rasayana*

The drug *Kanchanaraguggulu* a compound Ayurvedic preparation consists of *Guggulu*, *Kanchanara*, *Varuna*, *Triphala*, *Trikatu* and *Trijataka* (preparation of the drug mentioned in drug aspect). It is one of the safest and the very useful drug in ayurveda. It has found in usage for many years for *galaganda*, *gandhamala*, *apachi*, *Arbuda*, *Granthi*, *Vrana*, *Gulma*, *Kusta*, *Bhagandara* etc. *Shigru* is a well-known plant in India, whose leaves can be used in form of decoction for treatment of thyroiditis. It has *deepana*, *pachana*, *kaphavatahara* properties. It is recommended in *galaganda*, *kandu*, *sotha*, *apachi*, *vrana*, *medoroga*, *vidradhi*, *gulma*

etc. It is given as *anupana* along with *kachanarguggulu*. Rejuvenant drugs like *Brahmivati*, *potalokaturohinikasayam* can also be used. Few drugs can also be used for symptomatic relief of stress, fever and pain during the active period of disease like *Navakaguggulu*, *unarnavabadiguggulu*, *Nityananda rasa*, *Yogarajguggulu*.

CONCLUSION

De quiervain's thyroiditis is a rare disorder of the thyroid gland but its typical clinical presentation and lab findings make it easier for diagnosis in a well informed and vigilant practitioner. The disease process is a self limiting condition and usually takes months to year for complete recovery. The use of antithyroid or thyroid supplementary drugs during the disease process is not a necessary. However several ayurvedic medicines can be used to fasten the recovery process by augmenting the regeneration process of the thyroid gland.



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