

Graves' dermopathy during Covid 19 pandemic

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Abstract

A 27 year old man with an history of persistent hyperthyroidism, had been referred to surgeon for total thyroidectomy, but the procedure was delayed during the COVID-19 pandemic. He developed a nonpitting oedema on the pretibial region of both legs leading to diagnosis of thyroid dermopathy.

GRAVES' DERMOPATHY DURING COVID-19 PANDEMIC

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Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy

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INTRODUCTION

Coronavirus is a respiratory disease that is spreading worldwide. The severity and risk of death are important in the elderly, those with comorbidities, and immunosuppressed patients. The outbreak of a pandemic has created significant barriers to the diagnosis, treatment, and monitoring of chronic disease. The provision of regular, planned comprehensive care for chronic patients has been disrupted due to medical facility closures, lack of public transportation, or reduced services. This allowed us to identify rare conditions that would not normally appear ^{1,2}. Graves' disease is the most common cause of hyperthyroidism in iodine-deficient areas, with an incidence of 21 cases per 100,000 people per year ³. In addition to the signs and symptoms of hyperthyroidism, Graves' disease can also include Graves' orbitopathy disease (GO), thyroid dermatopathy (or pretibial myxoma) (PTM), and thyroid acromopathy⁵. Rarely, people with Graves' disease develop Graves' dermopathy. This is a condition of the skin that is characterized by red, swollen skin, usually on the shins and tips of the feet. There are similarities between the histological features and pathogenesis of GO and PTM ⁵. In both cases, glycosaminoglycan and mucin substances accumulate⁵. In both cases, fibroblast proliferation is observed. However, in dermatopathy, lymphocyte proliferation is less pronounced. The onset of thyroid dermatopathy occurs on average 12-24 months after diagnosis of thyrotoxicosis following GO, but in some cases, it can occur many years after diagnosis of hyperthyroidism⁶.

CASE REPORT

In May 2020, a 27 year old man reported an history of persistently high TSH-R-Abs and persistent hyperthyroidism, after more than 24 months of therapy with methimazole. Laboratory studies showed a thyrotropin level of 0,009 μ U per milliliter (reference range, 0.40 to 3.80), a free triiodothyronine level of 9.93 ng per deciliter (reference range, 0.26 to 0.44), and a free thyroxine level of 2.33 ng per deciliter (reference range, 0.9 to 1.6). He had been referred to surgeon for total thyroidectomy. In May 2021 he was still waiting for surgical procedure to be performed and he returned to the endocrinologist complaining of palpitations and trembling. He was on methimazole treatment, and the laboratory findings evidenced a thyrotropin level of 0,009 μ U per milliliter (reference range, 0.40 to 3.80), a free triiodothyronine level of 15.9 ng per deciliter (reference range, 0.26 to 0.44), and a free thyroxine level of 3.41 ng per deciliter (reference range, 0.9 to 1.6) and elevated levels of thyrotropin-receptor antibodies (118 IU per liter [reference value, <1.0]). On examination, he had lesions symmetrical in the lower extremity with an appearance similar to orange skin, with nonpitting edema on the pretibial region of the right and left legs (Fig 1, Panel A and B respectively) with soft tissue swelling leading to diagnosis of thyroid dermopathy. No signs and symptoms of GO. He had consulted a dermatologist who had recommended him an oral prednisone treatment in scalar doses which he had practiced for 15 days, blaming methimazole assumption.

DISCUSSION

To our knowledge, this is the first described case of Graves' dermopathy during COVID-19 pandemic. Thyroid dermopathy (pretibial myxedema) is a rare complication of Graves' disease, usually observed in patients who also have severe GO⁵. This rare finding, in absence of GO, is probably because of COVID-19 pandemic diagnosis and treatment delays of non-COVID related diseases.

CONCLUSION

The purpose of this cased report is to update information on how patients with chronic disease are affected during an epidemic, and opportunities to improve chronic disease management during an epidemic in settings with limited health care and resources. Additionally, this review can draw the attention of stakeholders to decision-making and action in the spirit of reducing the burden of chronic disease by providing the necessary recommendations for possible changes and expansions of current intervention programs.

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CONFLICTS OF INTEREST

The authors declare they have no conflict of interest.

ETHICS STATEMENT

Informed consent was obtained from the patient to report his case, and the manuscript was approved at the Ethics Committee of University of Campania "L. Vanvitelli".

WRITTEN CONSENT FROM THE PATIENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy

DETAILED AUTHOR'S CONTRIBUTION.

DP: initiated the preparation of this case report for scientific publication; she wrote the first draft of this manuscript.

RDF: provided all clinical features of the patient

LDS: searched the literature on this subject

FA: has processed the image of this manuscript

GA: contributed to the contents of the final version of this manuscript.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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