

Graves' disease induced pancytopenia in a patient with thyroid storm. A case report



Medina Jasso Juan

University of Mexico, Mexico

Biography

Medina Jasso, MD, is an Endocrinologist at the Doctors Hospital in Monterrey, Mexico. He trained in Internal Medicine, with an overweight and obesity management certification. He performs thyroid ultrasound and ablation of thyroid nodules (training in the Mexican Association of Nutrition and Endocrinology) and his major interest focus is in hyperthyroidism including Graves' disease and its complications.



Abstract

Introduction: Graves' disease can affect the hematological system, manifesting itself even with pancytopenia, conditioning a therapeutic dilemma in the use of thiamazole due to its secondary hematological effects.

Case Presentation: We present the case of a 55-year-old woman who came for weight loss, diarrhea, and insomnia; 5 days before admission fever, dyspnea, and transvaginal bleeding were added. Her physical examination showed exophthalmos, tachycardia, hyperthermia, goiter, Means-Lerman rub, and lower limb ecchymosis. A Wartofsky score of 45 consistent with thyroid storm was documented. Examinations showed elevated thyroid hormones, with pancytopenia (Table 1). Other causes of pancytopenia were ruled out: the bone marrow aspirate showed lymphocytic, normocellular infiltration; ELISA for human immunodeficiency virus, VDRL (Venereal Disease Research Laboratory) test, antibodies against cytomegalovirus, toxoplasma, and rubella was reported negative. Thyroid ultrasound showed goiter in the presence of increased generalized Doppler flow (Figure 1). After treatment with methimazole (had not previously received it), propranolol, hydrocortisone, and cholestyramine the patient showed improvement in hematopoietic function with the resolution of the thyroid storm.

Conclusions: In this case, it was demonstrated in a patient with recently diagnosed Graves' disease, without prior use of methimazole and having ruled out other etiologies of pancytopenia, that hyperthyroidism can induce hematological alterations; explained by the direct effect of hormones by causing a disorder in the maturation and differentiation of the hematopoietic stem cell, by reducing the half-life of blood cells by hypersplenism or by the presence of antineutrophil or antiplatelet antibodies. Treatment with methimazole and hydrocortisone remitted the thyroid storm and restored hematopoietic function, therefore, it was considered that 1) a hematologic evaluation of all patients with Graves' disease should be performed before administering antithyroid drugs and 2) the presence of pancytopenia should not be considered a contraindication to administer methimazole.

Publications

Garcia J, Silveira B, de Franca L, Wolff M, Torrini R, Ellinger V, et al. Marrow hypoplasia: a rare complication of untreated Grave's disease. *Arq Bras Endocrinol Metab.* 2014;58(9):953-57.

Hegazi M, Ahmed S. Atypical clinical manifestations of Graves' disease: an analysis in depth. *J Thyroid Res.* 2012;2012:1-8

Lima C, Zantut D, Castro V, Tambascia M, Lorand I, Saad S, et al. Pancytopenia in untreated patients with Graves' disease. *Thyroid.* 2006;16(4): 403-9

Gianoukakis A, Leigh M, Richards P, Christenson P, Hakimian A, Fu P, et al. Characterization of the anaemia associated with Graves' disease. *Clin Endocrinol.*

Chaar B, Kudva G, Olsen T, Silverberg A, Grossman B. Thrombotic thrombocytopenic purpura and Graves' disease. *Am J Med Sci.* 2007;334(2):133-5.

Brent G. Graves' disease. *N Engl J Med.* 2008;358(24):2594-605

[International Conference on Endocrinology disorders, Diabetes complications and Hypertension | Dublin, Ireland | July 31st-August 1st, 2020](#)

Citation: Medina Jasso Juan, *Graves' Disease Induced Pancytopenia In A Patient With A Thyroid Storm. A Case Report*, *Endocrinology* 2020, International Conference on Endocrinology disorders, Diabetes complications and Hypertension, Dublin, Ireland, 31st July- August 1st, 2020, 6