

2019

Thyroid Storm and Hypoparathyroidism Caused by Anaplastic Thyroid Carcinoma

Laura Oben Perez
University of South Florida

Alejandro Ramirez
University of South Florida, aramire2@usf.edu

Jessica Betancourt
University of South Florida

John Tourtelot
University of South Florida, jtourtel@usf.edu

Follow this and additional works at: https://digitalcommons.usf.edu/intmed_facpub

Scholar Commons Citation

Perez, Laura Oben; Ramirez, Alejandro; Betancourt, Jessica; and Tourtelot, John, "Thyroid Storm and Hypoparathyroidism Caused by Anaplastic Thyroid Carcinoma" (2019). *Internal Medicine Faculty Publications*. 115.

https://digitalcommons.usf.edu/intmed_facpub/115

This Article is brought to you for free and open access by the Internal Medicine at Digital Commons @ University of South Florida. It has been accepted for inclusion in Internal Medicine Faculty Publications by an authorized administrator of Digital Commons @ University of South Florida. For more information, please contact scholarcommons@usf.edu.

SUN-610 Thyroid Storm and Hypoparathyroidism Caused by Anaplastic Thyroid Carcinoma

Laura Oben Perez, MD, Alejandro Ramirez, MD, Jessica Betancourt, MD, John Tourtelot, MD

Journal of the Endocrine Society, Volume 3, Issue Supplement_1, April-May 2019, SUN-610, <https://doi.org/10.1210/js.2019-SUN-610>

Published: 30 April 2019

Abstract

Anaplastic Thyroid Carcinoma (ATC) has an incidence of $\leq 2/1,000,000$ and mean diagnosis age of 65 years (1). Fewer than 10% are <50 years (2,3). Hypoparathyroidism secondary to destruction of the gland from malignant invasion is rare, accounting for $\leq 0.7\%$ of all cases (4). The estimated incidence of thyroid storm is $<0.2/100,000$ per year (5). A 48-year-old woman presents with odynophagia, night sweats, exertional dyspnea, diarrhea and swelling of the neck. A CT shows a large solid mass with cystic pockets in the thyroid measuring 12.5 cm, and multiple lung nodules consistent with metastatic cancer. She is admitted with an initial Burch HB-Wartofsky Score (BWS) of 10. TSH is <0.01 mIU/L; free T₄, 2.91 ng/dL; and T₃, 6.44 pg/mL. Thyroid fine needle aspiration biopsy shows malignancy with a differential diagnosis of ATC versus metastatic squamous cell carcinoma. A subsequent core thyroid biopsy confirms ATC. The patient developed compressive dyspnea that resulted in hypoxic cardiac arrest followed by atrial fibrillation. She experienced persistent tachycardia, hyperthermia (101.7 F), and coma. She is diagnosed with thyroid storm (BWS of 50). Thyroid antibodies were negative. She responds to high-dose glucocorticoids, beta blockers, and propylthiouracil. Three days later, thyroid function tests, tachycardia, and fever improves, but coma persists. The ATC continues to enlarge rapidly. Fourteen days after admission, she develops hypocalcemia (5.2 mg/dL), and intact Parathyroid Hormone (iPTH) was 6.3 pg/mL.

Phosphorus and magnesium are normal. Hypoparathyroidism is attributed to malignant infiltration and destruction of the parathyroid glands. She responds to enteral calcitriol and calcium citrate. Her family opts for comfort measures after 19 days of coma. Conclusion: ATC may present with thyrotoxicosis and progress to thyroid storm. Hypoparathyroidism may occur due to invasion of the parathyroid glands. References: 1. Burke JP, Hay ID, Dignan F, et al. Long-term trends in thyroid carcinoma: a population-based study in Olmsted County, Minnesota, 1935-1999. *Mayo Clin Proc* 2005; 80:753. 2. Kebebew E, Greenspan FS, Clark OH, et al. Anaplastic thyroid carcinoma. Treatment outcome and prognostic factors. *Cancer* 2005; 103:1330. 3. Nagaiah G, Hossain A, Mooney CJ, et al. Anaplastic thyroid cancer: a review of epidemiology, pathogenesis, and treatment. *J Oncol* 2011; 2011:542358. 4. Marcucci G, et al. HypoparaNet: A Database of Chronic Hypoparathyroidism Based on Expert Medical-Surgical Centers in Italy. *Calcif Tissue Int*. 2018 Aug;103(2):151-163. doi: 10.1007/s00223-018-0411-7. Epub 2018 Mar 6. 5. Akamizu T, et al. Diagnostic criteria, clinical features, and incidence of thyroid storm based on nationwide surveys. *Thyroid*. 2012 Jul;22(7):661-79. doi: 10.1089/thy.2011.0334. Epub 2012 Jun 12.

Issue Section: [Thyroid Cancer Cases](#)

Copyright © 2019 Endocrine Society

This article has been published under the terms of the Creative Commons Attribution Non-Commercial, No-Derivatives License (CC BY-NC-ND; <https://creativecommons.org/licenses/by-nc-nd/4.0/>).

Copyright © 2019 Endocrine Society

