Myxedema as a Clinical Manifestation of a Healthcare System Sickness

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Case Report

A 53-year-old male was admitted to the intensive care unit because of upper gastrointestinal bleeding. Upon arrival, we noticed periorbital edema with pale and yellowish skin discoloration (Panel A). The patient’s medical history was significant for hyperthyroidism treated with radioactive iodine (I131) in 1979. About 10 years before his actual presentation, the patient’s family doctor retired. The patient eventually discontinued levothyroxine supplements with no family doctor to follow up on his I131-induced hypothyroidism. Upon questioning, the patient mentioned being extremely fatigued, barely able to work and spending 14 to 15 hours per day sleeping. Thyroid stimulating hormone was elevated at 191,0 mUI/L (reference value 0,35–3,50 mUI/L) and T4 level was 0,4 pmol/L (reference value 11,0–22,0 pmol/L). Levothyroxine supplements were gradually reintroduced, and the patient’s fatigue resolved. Upon follow-up 4 years later, peri-orbital oedema had resolved with normal skin coloration, leaving peri-orbital wrinkles (Panel B).

In Canada, it is estimated that 1 in 10 Canadians suffer from thyroid disease while thyroid medication use among Quebec residents is 7.5%. Clinical manifestation of hypothyroidism can be variable and depends on duration and...
severity of thyroid deficiency. Clinical manifestations can affect all organs and are associated with thyroid hormone deficiency leading to a slower metabolic process and the accumulation of matrix glycosaminoglycans in the interstitial spaces. Skin manifestations of hypothyroidism include cool and pale skin with hyperkeratosis leading to a dry appearance. Yellowish skin discoloration may occur in severe cases because of excess carotenemia. Nonpitting edema (myxedema) occurs in severe cases of hypothyroidism and results from skin infiltration with glycosaminoglycans.

The Canadian healthcare system is publicly financed and provides universal coverage for most healthcare services. The supply of physicians nationwide is uneven, including inequalities between rural and urban populations. Follow-up of chronic and stable medical conditions, such as hypothyroidism, can be challenging for some patients.

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The patient has provided a fully informed, voluntary, and written consent to use his pictures and publish this manuscript.

References