

Chronic Diarrhoea in Hyperthyroidism Leading to Rectal Prolapse: A Case Report

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ABSTRACT

Rectal prolapse is typically associated with chronic constipation and pelvic floor dysfunction. However, its occurrence secondary to chronic diarrhoea from hyperthyroidism is exceptionally rare. This case emphasises a rarely discussed pathophysiological link between prolonged thyrotoxicosis and advanced rectal prolapse. In this report, a 67-year-old male presented with chronic diarrhoea and rectal prolapse for two years, along with classic hyperthyroid features like weight loss and a longstanding multinodular goitre. Clinical and hormonal evaluation confirmed uncontrolled hyperthyroidism, while local examination revealed Grade V rectal prolapse. Imaging and endoscopic workup ruled out malignancy or other structural causes. He was managed conservatively with antithyroid drugs, dietary changes, and pelvic floor rehabilitation. Uncontrolled hyperthyroidism can present atypically with advanced rectal prolapse due to persistent diarrhoeal episodes and weakened pelvic support. Early recognition, endocrine optimisation, and multidisciplinary care are pivotal in such rare yet clinically significant presentations.

Keywords: Endocrine, Goitre, Multidisciplinary, Thyroid

CASE REPORT

A 67-year-old male security guard working on the night shift presented to the outpatient department with a two-year history of faecal incontinence and progressive protrusion of the anus that worsened after defaecation and after eating. He experienced increased difficulty in controlling his bowel movements, particularly after meals, leading to frequent episodes of faecal leakage for the past 6 months. The symptoms gradually worsened, and he sought medical attention from a physician. He also complained of an associated burning sensation in the epigastrium, intermittent palpitations and unintentional weight loss for the last six months. He attributed these issues to a reduced appetite and ongoing chronic stress related to his work environment. The patient denied nausea, vomiting, haematochezia, melena or pain in the abdomen and no history of alcohol intake or frequent tea or tobacco intake.

His previous medical history was noteworthy for hyperthyroidism, diagnosed 14 years ago, treated intermittently with carbimazole 10 mg per day. He had defaulted on follow-up several times because of work-related limitations. He also had a recent diagnosis of hypertension, for which he was started on antihypertensive medication one year ago. He had no history of diabetes mellitus, bronchial asthma, coronary artery disease, neurological illness, or prior abdominal/pelvic surgeries. There was no trauma history.

During the general examination, the patient was thin but oriented to time, place, and person, and he was alert. His vital signs were normal with a blood pressure of 110/70 mmHg, heart rate of 70 beats per minute, and no orthostatic hypotension. The patient had a history of palpitations, but upon admission, serial pulse rate monitoring and Electrocardiogram (ECG) monitoring were performed, which revealed normal limits. He was febrile and had an oxygen saturation of 98% on room air. Neck examination showed a soft, non-tender swelling in the anterior neck area, approximately 5 x 4 cm, that shifted with deglutition and did not reveal any bruit or lymphadenopathy. No exophthalmos, lid lag, or tremors were evident.

The abdominal examination was routine, with no organomegaly or tenderness noted. Local per anal examination did show a circumferential, non-reducible swelling of the anus, measuring approximately 4 x 2 cm, which was protruding through the anal

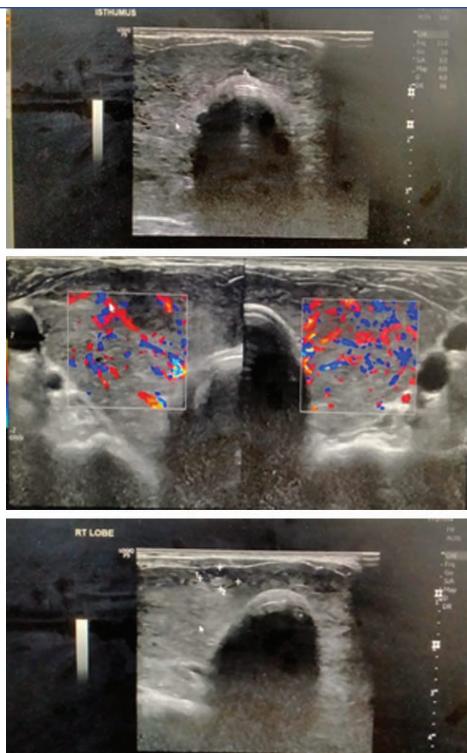
verge [Table/Fig-1]. The mucosa was oedematous with a faecal stain, but there was no active bleeding or ulceration. Digital Rectal Examination (DRE) established Grade V rectal prolapse with a thickened but nontender prolapsed rectal wall without any evident mass lesions or strictures. Tone of the anal sphincter was significantly reduced, implying chronic prolapse. There were no signs of external or internal haemorrhoids, fistulae, or abscesses.



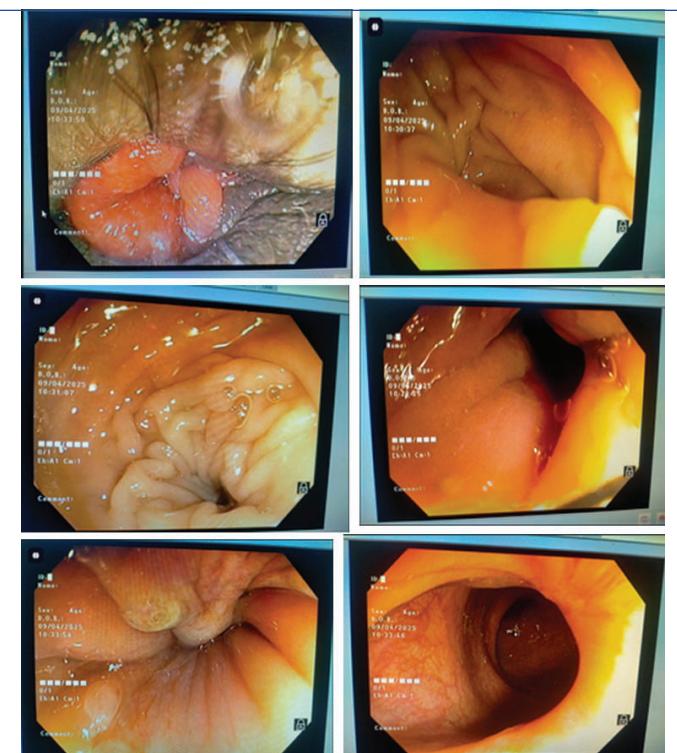
[Table/Fig-1]: Rectal prolapse.

With the background of hyperthyroidism and the palpable goitre, a thyroid workup was performed. Serum free T3 was markedly elevated at 7.60 pg/mL (reference range: 2.5–3.9 pg/mL), free T4 was 3.18 ng/dL (reference: 0.58–1.64 ng/dL), and Thyroid Stimulating Hormone (TSH) was suppressed at <0.005 µIU/mL (reference: 0.4–4.0 µIU/mL), biochemically establishing overt hyperthyroidism. Neck ultrasonography showed a heteroechoic, diffusely enlarged thyroid gland with augmented vascular flow, suggesting Graves' disease or toxic multinodular goitre. Two distinct nodules in the right thyroid lobe were described as TIRADS 4, necessitating Fine-Needle Aspiration Cytology (FNAC) to exclude malignancy [Table/Fig-2a-c].

To assess the cause and severity of the rectal prolapse, a flexible sigmoidoscopy was performed [Table/Fig-3a-f], revealing standard mucosal architecture in the sigmoid colon and rectum, with no colorectal growths, ulcers, or inflammatory lesions. The Contrast-Enhanced Computed Tomography (CECT) abdomen and pelvis



[Table/Fig-2a-c]: Ultrasound neck showed a heteroechoic, diffusely enlarged thyroid gland with augmented vascular flow.



[Table/Fig-3]: Colonoscopy of Fig-1a: Perianal showing the rectal prolapse, and other findings were normal, such as: 1b, 1c, 1d, 1e, 1f rectum, sigmoid colon, recto-sigmoid and anal canal.

finding was normal. The combination of complicated rectal prolapse, faecal incontinence, and long-standing, poorly controlled hyperthyroidism with multinodular goitre requires a multidisciplinary team approach, involving general surgery, endocrinology, and gastroenterology services. The patient was counselled on the need for periodic thyroid follow-up and adherence to antithyroid medication, and his dose of carbimazole was upgraded to 20 mg/day. Due to his reluctance for emergency surgery and personal constraints, final surgical repair of the rectal prolapse was deferred, and he was advised regarding dietary modification, i.e., high-fibre diet, stool softeners, and pelvic floor exercises. A follow-up with FNAC of thyroid nodules was found to be benign thyroid hyperplasia,

and a surgical consultation was planned for further assessment and final management. The patient was discharged with instructions to follow up regularly in the General Surgery and Endocrinology outpatient department. He was adherent to the medication, and his rectal condition did not worsen on follow-up visits.

DISCUSSION

The management of simultaneous Grade V rectal prolapse secondary to hyperthyroidism secondary to multinodular goitre poses several clinical dilemmas that are worth discussing in detail. Starting with the endocrine considerations, our patient's biochemical profile of significantly elevated free thyroid hormones with inappropriately low TSH is a typical presentation of primary hyperthyroidism. This trend is consistent with existing diagnostic criteria described in the American Thyroid Association guidelines, which place a premium on the pivotal position of TSH as the most sensitive marker of thyroid dysfunction [1]. The extreme level of thyrotoxicosis in this case (free T4 > 3 ng/dL) is consistent with the patient's history of weight loss, palpitations, and heat intolerance, all well-documented effects of hyperthyroid hormone action on metabolic processes [2]. The ultrasonographic features of a heterogeneously enlarged thyroid with enhanced vascular flow strongly implicate Graves' disease as the underlying aetiology. Still, the presence of several nodules raises the potential for toxic multinodular goitre. This is an important distinction, as the therapeutic response to antithyroid medications is typically different in these disorders [3,4]. Of special note are the TIRADS 4 nodules seen in the right lobe, which, by recent meta-analyses, have a 10-20% chance of malignancy. All TIRADS 4 nodules over 1 cm are recommended to undergo fine-needle aspiration according to the 2015 ATA guidelines, noting the need for prompt evaluation due to the possibility of concomitant differentiated thyroid cancer [5].

Grade V prolapse, or total full-thickness bulging, generally occurs due to gradual weakening of the pelvic floor musculature and rectal suspensory ligaments [6]. The patient's past occupation as a security guard, with possible standing for long periods and occasional heavy lifting, possibly leading to repeated increases in intra-abdominal pressure - an established risk factor for pelvic floor dysfunction [7]. The conservative management strategy followed in this case deserves special attention. Although surgical intervention is the gold standard for treating complete rectal prolapse, medical optimisation of associated conditions is often required before considering operative repair [8]. The choice to delay surgical correction of the prolapse until endocrine stabilisation is in accordance with current best practice guidelines, which stress the value of multidisciplinary risk assessment in complicated cases [9]. The nutritional considerations of this case warrant special mention. The patient's weight loss, as reported, most probably reflects a mixture of a hypermetabolic state due to hyperthyroidism and potential nutritional deficiencies secondary to chronic faecal incontinence. Patients with rectal prolapse often exhibit some level of malnutrition, making a detailed dietary assessment in this group particularly important [10].

Slater BJ et al., have demonstrated rectal hypersensitivity in patients with constipation-predominant irritable bowel syndrome, which may have at least in part contributed to the alteration in rectal sensitivity [11]. Deen KI et al., found that hyperthyroid patients also showed higher rectal threshold sensitivity than controls, but normal maximum tolerable rectal volumes. At best, these data imply an alteration in rectal sensitivity in patients with thyroid disorders [12]. Deen KI et al., demonstrated that hyperthyroid patients had significantly lower anal canal Maximum Resting Pressure (MRP) and Maximum Stress Pressure (MSP) compared to controls. Although the exact mechanism of lowered anal canal pressures remains unclear, it is tempting to speculate on the presence of a thyroid hormone-induced myopathy of the anal sphincters in these patients [12].

CONCLUSION

This in-depth case report illustrates the complex interaction between thyrotoxicosis and advanced rectal prolapse in an elderly male patient. Ideal treatment necessitates combined care from various specialties, focusing on biochemical control of hyperthyroidism before surgical evaluation for prolapse repair.

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