

Ileus With Hypothyroidism

Mason Thompson, MD, and Paul M. Fischer, MD
Augusta, Georgia

The symptoms of constipation and gaseous distension are often seen in patients with hypothyroidism and are evidence of diminished bowel motility. In its extreme this problem can result in an acute ileus or "pseudo-obstruction."¹ This dramatic presentation may be the first indication to the clinician that the patient is hypothyroid. This report describes two cases of myxedema ileus with unusual presentations and reviews the literature on this condition.

CASE REPORTS

CASE 1

A previously healthy 48-year-old woman was admitted for lower abdominal pain. An ultrasound examination revealed a cystic mass in the left pelvis, which was felt to be an ovarian remnant resulting from a previous abdominal hysterectomy and a bilateral salpingo-oophorectomy. An attempt to suppress the ovarian tissue with medroxyprogesterone failed, as the patient continued to experience significant pain. She therefore underwent a laparotomy, and the cyst that was removed was confirmed by histologic examination to be an ovarian remnant. She did well, and was discharged on the fourth postoperative day, but returned two days following discharge complaining of vomiting and no bowel movements. Abdominal roentgenograms showed evidence of partial small-bowel obstruction. She was treated with nasogastric suction and did well, later tolerating a regular diet. She was again discharged, but returned ten days later with symptoms of an ileus and required another period of nasogastric suction. Her symptoms then resolved. Esophagogastroduodenoscopy was done to evaluate the recurrent ileus and revealed only mild gastritis. Thyroid function studies were then done to further evaluate the cause of the ileus. At this time her physical examination re-

vealed no signs of hypothyroidism except for a flat affect. These studies showed a free thyroxine (T_4) level of $4.7 \mu\text{g/mL}$ and a thyroid-stimulating hormone (TSH) level of $41.1 \mu\text{U/mL}$.

She was placed on L-thyroxine and had no further difficulty with ileus. Her L-thyroxine was unfortunately omitted approximately one year later for a period of 19 days during an admission to the psychiatric floor. During this period she developed symptoms of acute hypothyroidism manifested by massive edema, shortness of breath, and lethargy. A TSH reading was later reported to be greater than $50 \mu\text{U/mL}$ during this acute withdrawal period prior to restarting the L-thyroxine. These symptoms promptly abated after restarting her thyroid medication.

CASE 2

A 48-year-old woman presented with a 36-hour history of nausea and recurrent vomiting. She denied fever, abdominal pain, the ingestion of unusual foods, or any previously known gastrointestinal disease. She was not regularly troubled with constipation, yet she had not had a bowel movement since the onset of the vomiting. The patient did report two similar episodes of nausea and vomiting within the past six months. Each of these had resolved in two days without treatment. She had been seen elsewhere during one of these episodes and ankle edema was noted. The patient was suspected at that time of having edema from cardiac disease and a diuretic was prescribed. She had not found this medication to be of help and had therefore discontinued its use. She gave no history of known cardiac disease and denied dyspnea on exertion or orthopnea. She did admit to increased fatigue during the past year. She had also noted dry skin, coarsening of the hair, cold intolerance, alopecia, and hoarsening of her voice.

The physical examination showed her to be moderately obese. She was afebrile and had a pulse of 68 beats/min. Periorbital puffiness was present. The thyroid was not palpable. Her heart and lung examinations were not remarkable. The abdominal examination showed rare bowel sounds and no tenderness.

Submitted, revised, October 16, 1985.

From the Department of Family Medicine, Medical College of Georgia, Augusta, Georgia. Requests for reprints should be addressed to Dr. Mason Thompson, Department of Family Medicine, Medical College of Georgia, Augusta, GA 30912.

There was mild nonpitting edema present in the lower extremities. The Achilles reflex had a markedly prolonged relaxation phase.

The laboratory evaluation included a T_4 level of 1.9 $\mu\text{g/mL}$ (normal 6 to 14 $\mu\text{g/mL}$), free triiodothyronine (T_3) uptake of 28 percent (normal 24 to 40 percent) and a TSH level of 149 $\mu\text{U/mL}$ (normal $< 7.2 \mu\text{U/mL}$). She was begun on L-thyroxine and a clear liquid diet. Her gastrointestinal symptoms resolved within several days and did not recur. Her complaints of fatigue, lethargy, and cold intolerance resolved by the sixth week after L-thyroxine therapy.

COMMENT

The routine diagnosis of hypothyroidism is made difficult by the wide variety of presentations and the insidious onset of this condition. Many of the symptoms in hypothyroidism can be traced to reduced organ motility. Hypomotility in hypothyroidism has been described for the esophagus, stomach, gallbladder, small bowel, colon, uterus, and bladder.² Decreased colon motility can result in constipation, which is one of the most common symptoms in hypothyroidism. Because of this fact, physicians will frequently evaluate the thyroid status of their patients with chronic constipation. On the other hand, the presentation of hypothyroidism as an acute ileus is less common, and the diagnosis may therefore be initially overlooked. Failing to make this diagnosis can result in prolonged hospitalizations, unnecessary surgery, and even the death of the patient.

The classic description of the syndrome of myxedema ileus is for a patient with previously unknown hypothyroidism to present with severe constipation and progressive abdominal distension.³ It has been stated that vomiting is an uncommon finding.¹ If the cause of the ileus is recognized, the patient's recovery is usually uneventful with conservative medical management and thyroid hormone replacement.

Case 1 is an example of myxedema ileus that presented as prolonged postoperative ileus. It is important to note that the surgery on this patient was for a condition unrelated to the subsequent ileus. Perhaps either the stress of surgery or the use of anticholinergic drugs during anesthesia was responsible for the exacerbation of this patient's hypothyroidism, which resulted in the acute ileus. No similar case has previously been reported. It is unknown how common hypothyroidism is the cause for prolonged postoperative ileus.

In most previous reports surgery in patients with myxedema ileus occurred because the patient's symptoms were interpreted as an acute abdomen. Several authors have emphasized the hazards of surgery in this condition. Of the 15 patients with myxedema ileus described in the literature in the past 25 years, five have gone to surgery because of this diagnostic error.^{2,4-13} None of these patients died, and there were no surgical

complications described. In fact, one patient survived three laparotomies for obstructive symptoms before the diagnosis of hypothyroidism was made.⁴ All postoperative complications in these patients were related to the thyroid disease, not to the surgical procedure. One patient became myxedematous before hypothyroidism was diagnosed,⁸ one developed myxedema coma,⁷ and one developed supraventricular tachycardia from treatment with intravenous triiodothyronine.⁵ The only deaths in the recent literature are two patients whose hypothyroidism was recognized and in whom conservative medical treatment was instituted.^{11,13}

Case 2 is an example of a patient who presented with recurrent episodes of unexplained vomiting. Each episode had spontaneously resolved prior to the establishment of the diagnosis of hypothyroidism. Vomiting has been thought to be an uncommon symptom in this syndrome, yet it was the prominent symptom in the two cases presented here.

The most unusual aspect of this syndrome is that acute intestinal obstruction is the primary clue to the diagnosis of hypothyroidism. While the hypothyroidism may be previously undiagnosed, it is usually not inapparent. Of the 15 cases in the recent literature, only one patient was not obviously hypothyroid by history or examination at the time of the ileus.¹¹ The key, therefore, to making the diagnosis is to consider it.

Physicians should consider the diagnosis of hypothyroidism in all patients with ileus that is either prolonged or recurrent, including those patients who appear to have another cause for the condition, such as those with a presumed postoperative ileus.

References

1. Faulk DL, Anures S, Christensen J: Chronic intestinal pseudo-obstruction. *Gastroenterology* 1978; 74:921-931
2. Boruchow IB, Miller LD, Fitts WT: Paralytic ileus in myxedema. *Arch Surg* 1966; 92:960-963
3. Bastenie PA: Paralytic ileus in severe hypothyroidism. *Lancet* 1946; 1:413-416
4. Haley HB, Leigh C, Bronsky D, et al: Ascites and intestinal obstruction in myxedema. *Arch Surg* 1962; 85:328-333
5. Bentley RJ, Browne RJ: Paralytic ileus and dementia in a case of myxedema. *Postgrad Med* 1969; 45:779-781
6. Batalis T, Muers M, Royle GT: Treatment with intravenous triiodothyronine of colonic pseudo-obstruction caused by myxedema. *Br J Surg* 1981; 68:439
7. Salerno N, Grey N: Myxedema pseudoobstruction. *AJR* 1978; 130:175-176
8. Hohl RD, Nixon RK: Myxedema ileus. *Arch Intern Med* 1965; 115:145-150
9. Abbasi AA, Douglass RC, Bissell GW, et al: Myxedema ileus. *JAMA* 1975; 234:181-183
10. Nathan AW, Havard CWH: Paralytic ileus and urinary retention due to hypothyroidism. *Br Med J* 1982; 285:477
11. Wells I, Smith B, Hinton M: Acute ileus in myxedema. *Br Med J* 1977; 1:211-212
12. Bassler A: Three cases of masked hypothyroidism having abdominal symptoms. *Endocrinology* 1940; 26:218
13. Chadha JS, Ashby DW, Cowan O: Fatal intestinal atony in myxedema. *Br Med J* 1969; 3:398