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Giant Fecaloma Presenting as Acute Respiratory Distress in a Bedridden Elderly Patient: A Case Report

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Abstract

Fecal impaction is a common condition among elderly patients, particularly those who are bedridden or affected by neuropsychiatric disorders and chronic constipation. Although most cases present with GI symptoms, severe complications may occasionally occur. We report the case of a 77-year-old bedridden woman with a history of major depressive disorder who presented to the ED with acute respiratory distress. Clinical examination revealed tachypnea, cyanosis, and oxygen saturation of 80% on room air despite normal pulmonary auscultation. The abdomen was markedly distended. Chest radiography showed elevation of the right hemidiaphragm, and abdominopelvic CT revealed a giant rectocolic fecaloma measuring more than 26 cm, extending to the subhepatic region, with marked elevation of the right hemidiaphragm. Laboratory tests showed acute kidney injury with a prerenal profile and hemoconcentration, as well as hyperlactatemia with mild metabolic acidosis; intra-abdominal pressure was not measured. Common cardiopulmonary causes of dyspnea, including pulmonary embolism, pneumonia, and heart failure, were considered less likely given the normal pulmonary auscultation, normal electrocardiogram, and marked abdominal distension, prompting abdominal imaging. Manual disimpaction followed by evacuation enemas resulted in the removal of a large volume of stool, with rapid improvement in respiratory symptoms and progressive normalization of renal function over 10 days. This time course is consistent with, but does not prove, a causal relationship. This case highlights an unusual presentation of fecal impaction as acute respiratory distress, probably related to mechanical diaphragmatic elevation, with possible but unmeasured intra-abdominal hypertension. In frail or immobile older adults with otherwise unexplained dyspnea accompanied by marked abdominal distension and risk factors for constipation, severe fecal impaction may be considered among potential intra-abdominal causes after urgent cardiopulmonary conditions have been assessed.

Categories: General Surgery, Emergency Medicine, Geriatrics
Keywords: emergency medicine, fecal impaction, fecaloma, geriatrics, intra-abdominal hypertension, respiratory distress

Introduction

Fecal impaction is a frequent condition in geriatric medicine, occurring predominantly in elderly, institutionalized, or bedridden patients with chronic constipation and neuropsychiatric comorbidities [1,2]. Reduced mobility, dehydration, neurological disorders, and medications that impair intestinal motility, including psychotropic agents, are well-recognized predisposing factors [3-5].

In severe cases, persistent fecal retention may lead to the formation of a fecaloma, a large, organized mass of hardened stool capable of producing substantial colonic distension and mechanical compression of adjacent organs [6,7]. Giant fecalomas may occasionally mimic intra-abdominal tumors, cause bowel obstruction, or compress neighboring structures, such as the ureters or blood vessels, leading to complications including stercoral ulceration and colonic perforation [1,2,7-9].

For readers less familiar with the underlying physiology, the diaphragm is the muscle that separates the chest from the abdomen and moves downward during each inspiration. When a very large mass of stool distends the colon, the volume and pressure inside the abdomen increase and push the diaphragm upward, preventing it from descending freely. The lungs, especially the lung bases, then expand less, which may cause breathlessness and a fall in blood oxygen levels. The same mechanism is well known in other conditions involving massive abdominal distension, such as tense ascites and abdominal compartment syndrome [10,11].

Although fecal impaction typically presents with GI symptoms, respiratory manifestations are exceptionally rare and may result in diagnostic delay. We report a case of a giant rectocolic fecaloma presenting primarily as acute respiratory distress, probably related to diaphragmatic elevation, in an elderly bedridden patient.

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Case Presentation

A 77-year-old bedridden woman was admitted to the ED for sudden-onset dyspnea. She had melancholic major depressive disorder treated with amitriptyline 25 mg twice daily; her regular medications also included a calcium channel blocker, oral iron, and an antiparkinsonian agent, all of which have recognized constipating effects. Caregivers reported a six-month history of chronic constipation requiring frequent laxative use, with previous episodes of fecal impaction. Her last bowel movement had occurred four days before admission, and no laxative had been taken in the days preceding admission. Her weight was 60 kg, and her BMI was within the normal range, although the exact value was not recorded. The duration of her stay in a care facility could not be determined from her medical record.

On admission, the patient was afebrile. General examination showed signs of moderate dehydration, including dry oral mucosa, sunken eyes, and a persistent skin fold, while blood pressure remained within the normal range. Respiratory examination revealed severe respiratory distress, with a respiratory rate of 30 breaths per minute, use of the accessory respiratory muscles, and peripheral cyanosis. SpO_2 was 80% on room air; pulmonary auscultation was normal. Oxygen therapy via a non-rebreather mask at 10 L/min rapidly improved oxygen saturation. Hemodynamic parameters were stable, with a blood pressure of 120/70 mmHg and a heart rate of 90 beats per minute; the electrocardiogram was normal. Abdominal examination revealed a distended but soft and tympanic abdomen that was nontender on palpation, as well as a palpable bladder (Figure *1*).



FIGURE 1: Clinical photograph showing marked abdominal distension in the bedridden patient, with cardiorespiratory monitoring and intravenous access in place.

Bladder catheterization was performed, with drainage of 500 mL of urine. Subsequent imaging did not show hydronephrosis; however, the relative contributions of urinary retention, which may itself have been related to displacement of the bladder by the fecaloma, and fecal impaction to the renal failure could not be quantified. Digital rectal examination revealed stool of normal color in the rectum. Laboratory tests demonstrated acute kidney injury, with a creatinine clearance of 18 mL/min and a urea level of 23 mmol/L. The markedly elevated urea level, together with a serum sodium level of 148 mmol/L and a hematocrit of 45%, indicated hemoconcentration and a prerenal component. The lactate level was elevated at 4.2 mmol/L. Arterial blood gas analysis, performed while the patient was receiving oxygen at 3 L/min, showed a pH of 7.34, a PaO_2 of 70 mmHg, a $PaCO_2$ of 36 mmHg, a SaO_2 of 93%, and a bicarbonate level of 19 mmol/L, consistent with mild metabolic acidosis in the setting of hyperlactatemia. Intra-abdominal pressure was not

measured.

Chest radiography showed marked elevation of the right hemidiaphragm (Figure 2).

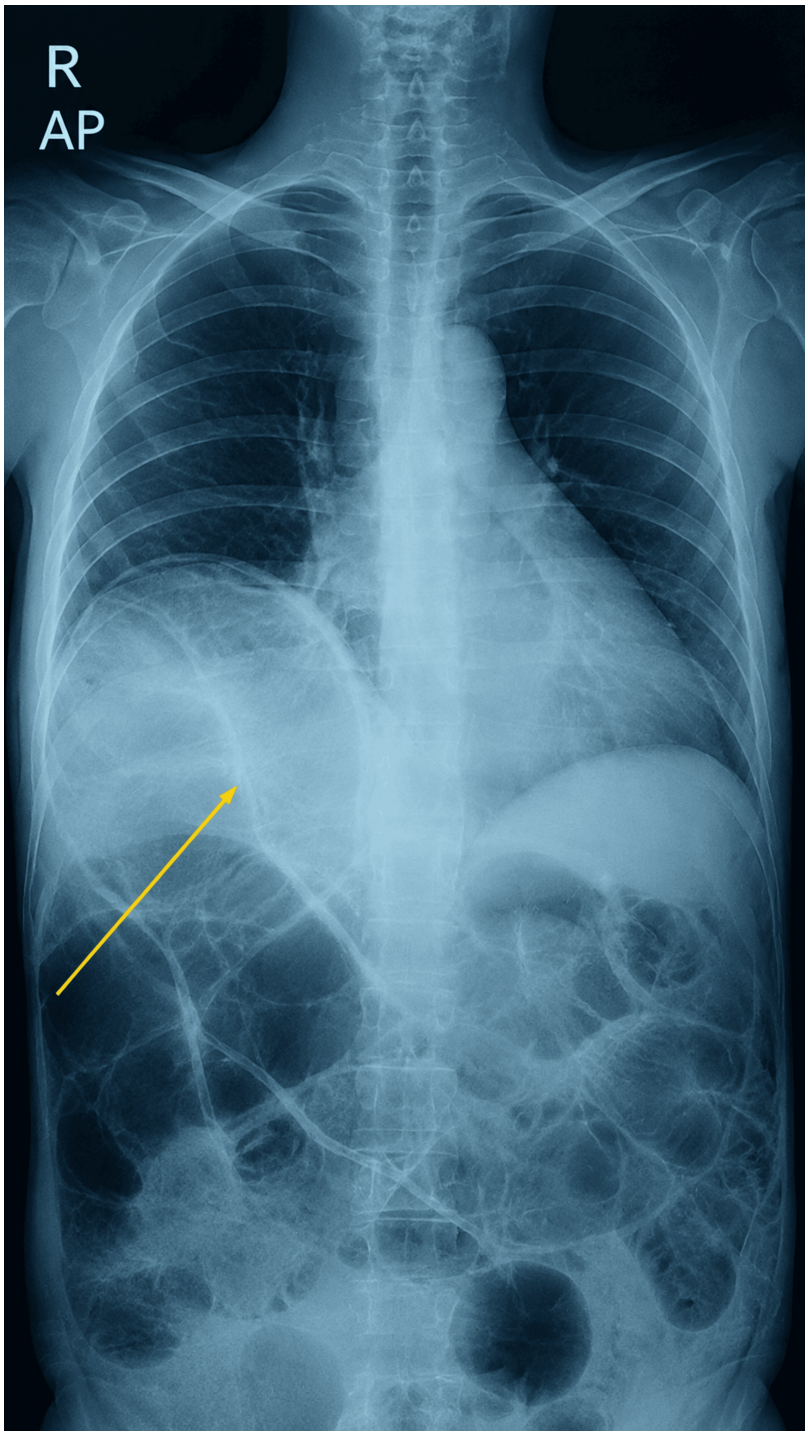


FIGURE 2: Chest radiograph showing marked elevation of the right hemidiaphragm (arrow), consistent with abdominal distension from a giant fecaloma.

Abdominal radiography showed severe colonic distension with a heterogeneous stercoral mass (Figure 3).

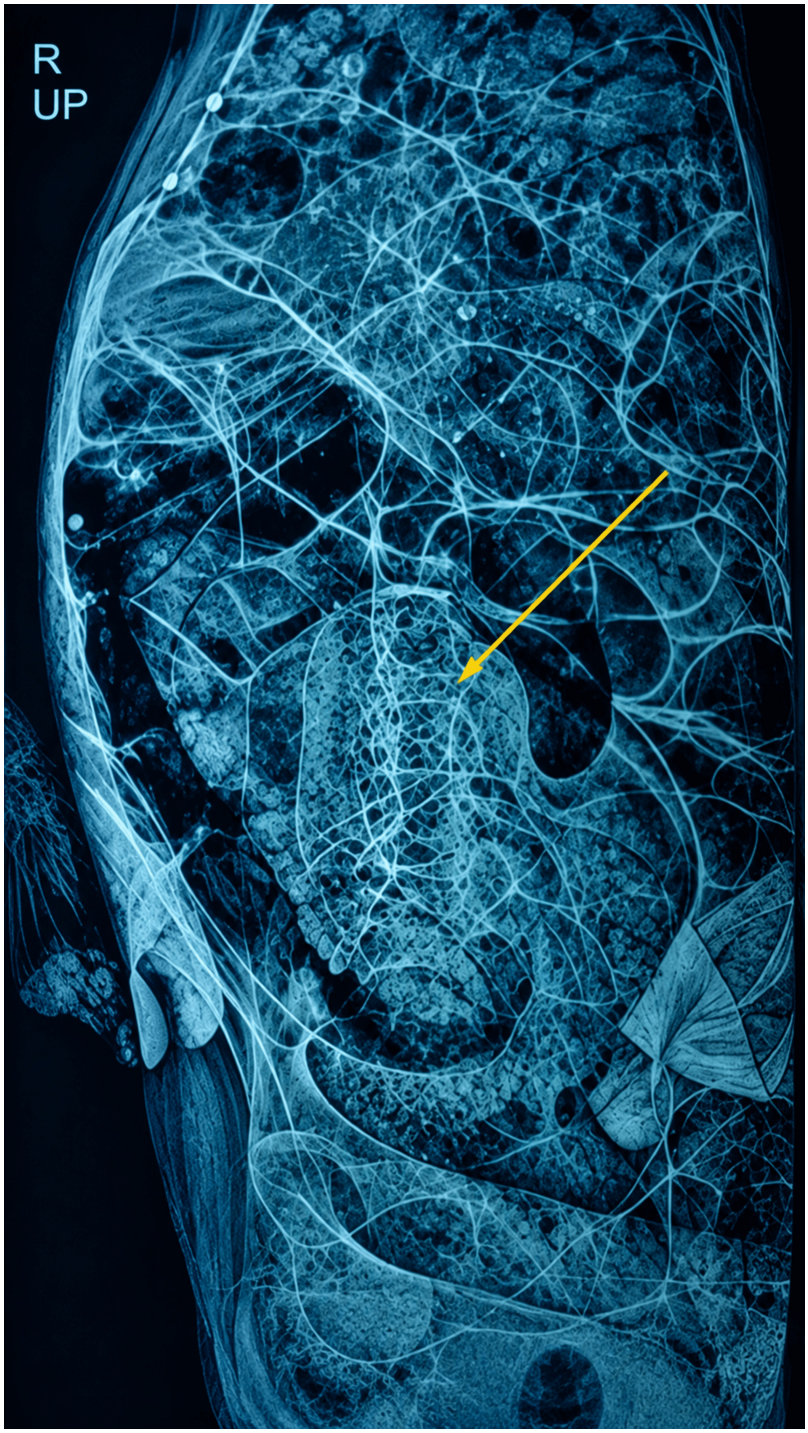


FIGURE 3: Abdominal radiograph demonstrating severe colonic distension with a large, heterogeneous stercoral mass (arrow), consistent with fecal impaction.

Given the marked abdominal distension and unexplained hyperlactatemia, emergency contrast-enhanced abdominopelvic CT angiography was performed to assess bowel viability and rule out vascular or mechanical complications, particularly mesenteric ischemia. It revealed a giant rectocolic fecaloma measuring more than 26 cm, extending to the subhepatic region and displacing the bladder anteriorly and to the left (Figure *4A*, *4B*).

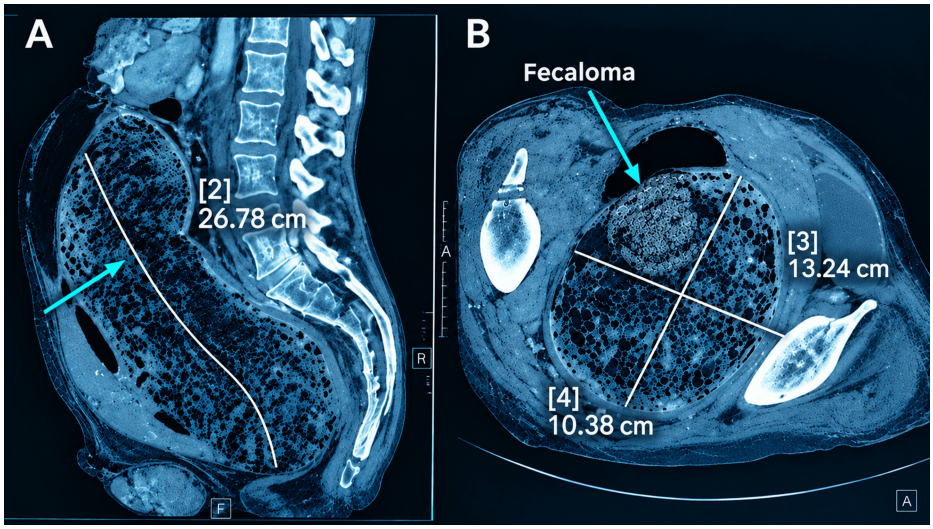


FIGURE 4: Abdominopelvic CT scan, sagittal (A) and axial (B) views, showing a giant rectocolic fecaloma measuring more than 26 cm (arrows) and extending to the subhepatic region, with displacement of adjacent organs.

Interpretation of the hyperlactatemia

The lactate level of 4.2 mmol/L was most plausibly multifactorial, reflecting hypoxemia, reduced clearance in the setting of acute kidney injury, and possible splanchnic hypoperfusion due to elevated intra-abdominal pressure. The elevated lactate level was accompanied by mild metabolic acidosis on arterial blood gas analysis, consistent with lactic acidosis. This remains an interpretation, as intra-abdominal pressure was not measured.

Diagnostic reasoning

In an elderly patient presenting with acute dyspnea, cardiopulmonary causes such as pulmonary embolism, pneumonia, acute heart failure, and acute coronary syndrome were initially considered. Unremarkable pulmonary auscultation, a normal electrocardiogram, and the absence of fever made these diagnoses less likely, although they could not be formally excluded without further cardiopulmonary workup (e.g., D-dimer testing, chest CT, or echocardiography). This workup was not performed because the marked abdominal distension prompted abdominal imaging instead. This imaging identified the giant fecaloma as a plausible cause of diaphragmatic elevation and respiratory distress. A working diagnosis of respiratory distress probably related to mechanical diaphragmatic elevation caused by massive fecal loading, with possible but unmeasured intra-abdominal hypertension, was therefore established.

Treatment and outcome

Immediate treatment consisted of digital fragmentation and manual disimpaction of the rectal fecal mass, performed gently to avoid mucosal injury, followed by evacuation enemas containing warm water and mineral oil, approximately 2 L in total, in the ED. Complete evacuation of a large volume of stool, with visible abdominal decompression, was achieved within one hour of arrival. The patient showed rapid clinical improvement, with normalization of the respiratory rate and discontinuation of oxygen therapy shortly after evacuation. She was admitted for monitoring and treated with polyethylene glycol 13.8 g daily and oral rehydration; renal function progressively normalized over the following 10 days. The clinical timeline is summarized in Table *1*.

Time	Event
Baseline	Bedridden elderly woman with chronic constipation and major depressive disorder
Day 0, arrival	Admission to the ED for acute dyspnea
Day 0, initial evaluation	Severe hypoxemia (SpO_2 80%) and marked abdominal distension noted
Day 0, imaging	Chest and abdominal radiography, followed by CT angiography showing a giant rectocolic fecaloma (>26 cm)
Day 0, diagnosis	Respiratory distress probably related to diaphragmatic elevation caused by a giant fecaloma, with possible but unmeasured intra-abdominal hypertension
Day 0, treatment	Manual disimpaction and three warm water enemas containing mineral oil (approximately 2 L in total); complete evacuation within one hour
Day 0, immediate outcome	Rapid respiratory improvement and discontinuation of oxygen therapy
Day 10, follow-up	Progressive normalization of renal function

TABLE 1: Clinical timeline of presentation, diagnosis, and management.

The objective parameters before and after treatment, together with the investigations not performed, are summarized in Table 2.

Parameter	At presentation	After disimpaction and enemas
Respiratory rate	30 breaths/min, accessory muscle use	Normalized (exact value not recorded)
Oxygenation	SpO_2 80% on room air; improved with a non-rebreather mask at 10 L/min	Oxygen therapy discontinued
Cyanosis	Peripheral cyanosis	Resolved clinically
Hemodynamics	Blood pressure 120/70 mmHg; heart rate 90 beats/min	Stable
Renal function	Creatinine clearance 18 mL/min; urea 23 mmol/L; sodium 148 mmol/L; hematocrit 45%	Progressive normalization over 10 days
Lactate and acid-base status	Lactate 4.2 mmol/L; arterial blood gases while receiving oxygen at 3 L/min: pH 7.34, PaO_2 70 mmHg, $PaCO_2$ 36 mmHg, SaO_2 93%, bicarbonate 19 mmol/L (mild metabolic acidosis consistent with hyperlactatemia)	Follow-up values not available
Imaging	Elevated right hemidiaphragm on chest radiograph; fecaloma >26 cm on CT	No follow-up imaging

TABLE 2: Objective parameters before and after evacuation and investigations not performed.

Investigations not performed: intra-abdominal (bladder) pressure measurement, D-dimer testing, chest CT, echocardiography, pulmonary function testing, and post-evacuation imaging.

Discussion

The diagnosis of a fecaloma is often suspected on clinical examination and confirmed by imaging. Although abdominal radiography may show colonic distension and fecal loading, CT remains the most accurate modality for assessing the size, location, and complications of fecalomas [12,13].

Although often regarded as benign, fecal impaction may lead to serious complications, such as stercoral ulceration, bowel obstruction, and colonic perforation, the latter of which is associated with significant mortality [1,2,14]. Compression of neighboring anatomical structures may also cause hydronephrosis, venous thrombosis, or neurological symptoms [1,8].

Comparison with previous reports

Respiratory distress as the presenting feature of a fecaloma is exceptionally rare. The existing literature on giant fecalomas consists mainly of descriptions of abdominal masses, bowel obstruction, or compression of urinary and vascular structures [3-6,8,15], rather than primary respiratory presentations. Direct comparison with the present case is limited by the scarcity of reports documenting comparable physiological measurements, such as intra-abdominal pressure.

Contributing factors

Fecaloma formation in this patient was multifactorial. Immobility was a major determinant, as prolonged bed rest slows colonic transit and removes the postural and physical activity stimuli that promote propulsive motility. Melancholic major depressive disorder contributed directly through psychomotor retardation and neglect of the urge to defecate and indirectly through reduced food and fluid intake. Medication was probably a central factor: amitriptyline is the most strongly anticholinergic of the tricyclic antidepressants, and constipation is among its most frequent dose-dependent adverse effects, resulting from inhibition of muscarinic receptors in the enteric nervous system, delayed colonic transit, and reduced defecatory urge. The concomitant calcium channel blocker, oral iron, and antiparkinsonian agent also affect intestinal motility through complementary mechanisms, such that the cumulative constipating burden substantially exceeded that of any single agent [3-5]. Dehydration was a further contributor rather than the dominant factor. The clinical signs indicated moderate rather than severe volume depletion, and blood pressure was preserved; however, the associated hypernatremia and hemoconcentration favor colonic water reabsorption and progressive stool desiccation. Finally, the absence of a structured bowel management protocol in a bedridden patient with a six-month history of constipation and previous impactions allowed stool to accumulate unrecognized until a giant fecaloma had formed.

Proposed mechanism and its limitations

We suggest that the massive fecaloma elevated the diaphragm, restricting lung expansion and contributing to hypoxemic respiratory distress. Possible but unmeasured intra-abdominal hypertension may have compounded this effect, by analogy with abdominal compartment syndrome, in which elevated intra-abdominal pressure can impair respiratory mechanics, renal perfusion, and cardiovascular function [10,11]. We emphasize that the relationship between diaphragmatic elevation and dyspnea in this patient is a clinically inferred association, not a mechanism validated by physiological measurement. Arterial blood gas analysis performed while the patient was receiving oxygen showed a PaO_2 of 70 mmHg without hypercapnia ($PaCO_2$ of 36 mmHg) and mild metabolic acidosis associated with hyperlactatemia but did not establish the mechanism of hypoxemia. Intra-abdominal pressure was not measured, no chest CT or pulmonary function testing was performed, and atelectasis was not objectively documented. Any ventilation-perfusion mismatch is therefore inferred from the clinical and radiological findings.

Exclusion of competing diagnoses

Pulmonary embolism, pneumonia, and acute heart failure were considered less likely based on normal pulmonary auscultation, a normal electrocardiogram, and the absence of fever, but none of these diagnoses was formally excluded by additional investigations, such as D-dimer measurement, chest CT, or echocardiography. The decision to prioritize abdominal imaging was based on the marked abdominal distension and the absence of an alternative cardiopulmonary explanation. The final diagnosis therefore remains a diagnosis of exclusion, supported by a plausible clinical course.

Response to treatment

After manual disimpaction and evacuation enemas, the respiratory rate normalized, oxygen therapy was discontinued, and renal function progressively normalized over the following 10 days. This time course is consistent with a causal link between fecal impaction and the respiratory and renal abnormalities but does not prove it, because oxygen therapy, bladder catheterization, rehydration, and laxatives were administered concurrently, and no confirmatory cardiopulmonary investigation was performed.

Limitations

This report describes a single case, which limits the generalizability of its findings. Several clinical details relevant to risk stratification and causal interpretation, including the exact BMI, the duration of institutionalization, and prior renal function, were not available in the medical record. Because intra-abdominal pressure was not measured, the contribution of intra-abdominal hypertension remains inferred. Alternative cardiopulmonary diagnoses were considered unlikely on clinical grounds but were not excluded by additional investigations. The hyperlactatemia was not remeasured in a documented manner. Finally, the

respective contributions of urinary retention and the fecaloma to the acute kidney injury cannot be separated.

Emergency medicine implications

In the ED, dyspnea is most often attributed to cardiopulmonary conditions such as pulmonary embolism, pneumonia, or heart failure. This report is intended for clinicians and does not replace the standard cardiopulmonary workup. It suggests that, after reasonable assessment of urgent cardiopulmonary causes, marked abdominal distension in an elderly or immobile patient with unexplained dyspnea warrants abdominal examination and, where appropriate, abdominal imaging.

Management

Management depends on the size and location of the fecaloma and follows a stepwise, least-invasive-first approach. Distal masses are treated with digital fragmentation and manual disimpaction combined with softening enemas, as in the present case. Disimpaction must be performed gently because stercoral ulceration renders the rectal wall friable, and perforation has been reported [1,2,14]. Phosphate-containing enemas should be avoided in elderly patients with acute kidney injury, in whom they may precipitate severe hyperphosphatemia and hypocalcemia; warm water, saline, or mineral-oil enemas are preferable in this setting. Proximal impaction additionally requires oral or nasogastric administration of an osmotic agent, such as polyethylene glycol, once obstruction and perforation have been excluded [12,13,16]. Endoscopic fragmentation, with or without water-jet irrigation, is indicated when conservative measures fail [17], and surgery is reserved for complicated cases, such as perforation, ischemia, or giant fecalomas refractory to all the aforementioned measures [9]. Fatal cases have been reported, underscoring the importance of early diagnosis and prompt evacuation [18].

Prevention

In frail older adults at high risk of fecaloma formation, preventive strategies are essential. Regular monitoring of bowel habits, adequate hydration, early mobilization when possible, and appropriate use of laxatives are key measures to prevent severe constipation and fecaloma formation [19,20]. In institutionalized or bedridden patients, proactive bowel management protocols may reduce the risk of serious fecaloma-related complications. In the present case, a structured bowel management plan was instituted before discharge: polyethylene glycol 13.8 g daily; a nurse-led bowel chart recording stool frequency and Bristol Stool Form Scale scores [21], with a defined threshold for intervention after three days without a bowel movement; a scheduled postprandial toileting routine; assisted oral hydration; and a medication review aimed at reducing the anticholinergic burden, particularly by reconsidering amitriptyline in favor of an antidepressant with a lower anticholinergic profile.

Conclusions

A giant fecaloma is a rare but potentially serious complication of chronic constipation in frail older adults. It may exceptionally present with extra-abdominal symptoms, such as acute respiratory distress, probably related in this case to mechanical diaphragmatic elevation, with possible but unmeasured intra-abdominal hypertension. This single case, involving a diagnosis of exclusion without confirmatory cardiopulmonary investigation, supports only a clinically inferred association. In elderly or immobile patients with unexplained dyspnea and marked abdominal distension, a fecaloma may be considered among the potential intra-abdominal causes once the cardiopulmonary status has been assessed. Early abdominal examination and imaging, together with prompt disimpaction, may help prevent potentially fatal complications in this vulnerable population.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

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Acquisition, analysis, or interpretation of data: Manel Kallel, Khedija Zaouche, Mehdi Houman, Emna Rezgui, Emna Kallel

Drafting of the manuscript: Manel Kallel, Khedija Zaouche, Mehdi Houman

Critical review of the manuscript for important intellectual content: Manel Kallel, Khedija Zaouche, Emna Rezgui, Emna Kallel

Supervision: Manel Kallel, Khedija Zaouche, Emna Rezgui, Emna Kallel

Disclosures

Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. issued approval 123/2025. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

References

1. Serrano Falcón B, Barceló López M, Mateos Muñoz B, Álvarez Sánchez A, Rey E: Fecal impaction: a systematic review of its medical complications. BMC Geriatr. 2016, 16:4. 10.1186/s12877-015-0162-5
2. Sommers T, Petersen T, Singh P, et al.: Significant morbidity and mortality associated with fecal impaction in patients who present to the emergency department. Dig Dis Sci. 2019, 64:1320-7. 10.1007/s10620-018-5394-8
3. Yucel AF, Akdogan RA, Gucer H: A giant abdominal mass: fecaloma. Clin Gastroenterol Hepatol. 2012, 10:e9-10. 10.1016/j.cgh.2011.06.030
4. Mushtaq M, Shah MA, Malik AA, Wani KA, Thakur N, Parray FQ: Giant fecaloma causing small bowel obstruction: case report and review of the literature. Bull Emerg Trauma. 2015, 3:70-2. 10.7508/beat.2015.02.007
5. Blakaj F, Hamza A, Bicaj B, Haliti D, Kotori V: Giant fecaloma mimicking large tumor of the abdomen: a case report. Forensic Sci Int Rep. 2020, 2:100108. 10.1016/j.fsir.2020.100108
6. Cid AA, Pietruk T, Bidari CZ, Ehrinpreis MN: Cecal fecaloma mimicking colonic neoplasm. Dig Dis Sci. 1981, 26:1134-7. 10.1007/BF01295981
7. Constantin A, Achim F, Spinu D, Socea B, Predescu D: Idiopathic megacolon—short review. Diagnostics (Basel). 2021, 11:2112. 10.3390/diagnostics11112112
8. Tu KC, Kuo JR: Fecaloma causing megacolon and bilateral hydronephrosis. Formos J Surg. 2020, 53:70-3. 10.4103/fjs.fjs_58_19
9. Tchangai B, Alassani F, Tchaou M, Attipou K: Staged surgery for giant fecaloma complicating idiopathic megacolon. Open J Gastroenterol. 2016, 6:418-22. 10.4236/ojgas.2016.612044
10. Skervin A, Asanai K, Mobasheri M: Abdominal compartment syndrome. Surgery (Oxford). 2025, 43:607-13. 10.1016/j.mpsur.2025.07.009
11. Kirkpatrick AW, Roberts DJ, De Waele J, et al.: Intra-abdominal hypertension and the abdominal compartment syndrome: updated consensus definitions and clinical practice guidelines from the World Society of the Abdominal Compartment Syndrome. Intensive Care Med. 2013, 39:1190-206. 10.1007/s00134-013-2906-z
12. Rao SS, Rattanakovit K, Patcharatrakul T: Diagnosis and management of chronic constipation in adults . Nat Rev Gastroenterol Hepatol. 2016, 13:295-305. 10.1038/nrgastro.2016.53
13. Camilleri M, Ford AC, Mawe GM, et al.: Chronic constipation. Nat Rev Dis Primers. 2017, 3:17095. 10.1038/nrdp.2017.95
14. Emmett CD, Close H, Mason JM: Complications of severe fecal impaction in older adults . Age Ageing. 2018, 47:423-9.
15. Alamery TY, Alkudaysi FM, Al Haili MR, Ahmed HB, Alquzi IH: Large fecaloma with multiple fecal impactions in a 12-year-old girl: case report. J Int Crisis Risk Commun Res. 2024, 1735-41.
16. Bharucha AE, Pemberton JH, Locke GR 3rd: American Gastroenterological Association technical review on constipation. Gastroenterology. 2013, 144:218-38. 10.1053/j.gastro.2012.10.028
17. Hooda Z, Higgins SC, Pastore D, et al.: Rare case of fecaloma requiring endoscopic intervention in a 24-year-old female. J Surg Case Rep. 2024, 2024:rjae438. 10.1093/jscr/rjae438
18. Ramesh R, Veeraraghavan R: A case of giant fatal fecaloma. Int Surg J. 2022, 9:2096-7. 10.18203/2349-2902.isj20223182
19. De Giorgio R, Ruggeri E, Stanghellini V, Eusebi LH, Bazzoli F, Chiarioni G: Chronic constipation in the elderly: a primer for the gastroenterologist. BMC Gastroenterol. 2015, 15:130. 10.1186/s12876-015-0366-3
20. Müller-Lissner SA, Kamm MA, Scarpignato C, Wald A: Myths and misconceptions about chronic constipation. Am J Gastroenterol. 2005, 100:232-42. 10.1111/j.1572-0241.2005.40885.x
21. Lewis SJ, Heaton KW: Stool form scale as a useful guide to intestinal transit time . Scand J Gastroenterol. 1997, 32:920-4. 10.3109/00365529709011203