

Intestinal Obstruction Secondary to Necrotic Subserosal Uterine Fibroids: A Case Report of a Rare Surgical Emergency in a Young Woman

Dr Gildas Mbamba Ngman-Wara

Ghana Health Service

Dr James Mwinsumbo Sunkari

jsunkari@gmail.com

Ghana Health Service

Dr. Abdul-Hafiz Atta-Ullahi

Ghana Health Service

Dr. Timothy Anzagira

Ghana Health Service

Dr. Severin Wedaga Llewellyn Caesar Avogo

Ghana Health Service

Dr. Pokperlaar Biidobi

Ghana Health Service

Dr. Memunatu Mustapha

Ghana Health Service

Dr. Enoch Agbevava Eyram Kofi Akpeloo

Ghana Health Service

Case Report

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Abstract

Background

Uterine fibroids or leiomyomas are the most common benign gynecologic neoplasms in women of reproductive age. They usually have no symptoms, but on the basis of quantity, size, or site, these tumours may cause a variety of symptoms. Where it happens very rarely with severe complications like necrosis and intra-abdominal infection, it becomes a matter of great importance with regard to a patient with intestinal obstruction complicating uterine fibroids. Here, we report a case where a young female had developed acute small bowel obstruction due to large, necrotic subserosal uterine fibroids.

Case Presentation

A 30-year-old woman was admitted to the periphery with a history of severe abdominal pain over the last two days she also noted progressive abdominal distention, dyspnea, vomiting, and more importantly no passage of stools and an increase in urinary frequency. During admission, she was tachycardic with a pulse rate of more than 125 beats per minute. Abdominal examination was notable for distension, with a solid, irregular, suprapubic mass in keeping with a symphysiofundal height of 34 cm, with tympanitic percussion notes, hyperactive bowel sounds. Her abdominopelvic sonography revealed a large uterine mass of 16 cm × 17 cm in size. Subsequently, her condition deteriorated to peritonitis, marked by generalized abdominal tenderness, defensive guarding, rigidity, and absent bowel sounds accompanied by desaturation; on room air her saturation varied from 89% to 94%. Prompt exploratory laparotomy was performed, and intraoperative findings revealed three fibroids of subserosal origin, the largest fibroid was necrotic, measuring 24 cm × 16 cm and weight was 2.6 kg, in addition to a tight adhesive tissue alongside adhesions of various intestines loop. There was found to be approx. 2 liters of free pus in the abdominal cavity, and consequently, small bowel obstruction was confirmed. Myomectomy was performed successfully. She made an uneventful recovery in the postoperative period and was discharged one week later.

Conclusion

This case underscores that intestinal obstruction, though a rare complication of uterine fibroids, can present as a surgical emergency, particularly when necrosis and infection supervene. In women of reproductive age presenting with acute abdominal symptoms, a high index of suspicion for gynecological pathology, including fibroids; is essential for timely diagnosis and surgical intervention to prevent significant morbidity.

INTRODUCTION

Uterine fibroids (leiomyomas or myomas) are the most common benign gynaecological neoplasms seen particularly in women during the reproductive stage of their lives¹. The neoplasms consist mostly of smooth muscle cells, with variable amounts of fibrous tissue.

About 25% of women have fibroids during their reproductive years, but most of them remain asymptomatic². Enlarging fibroids start to compress more and more of the surrounding myometrium and connective tissue until a pseudocapsule is gradually formed, which is very rich in collagen fibers, neurofibers, and blood vessels². While often multiple, they may present as solitary lesions and can cause significant morbidity, negatively impacting reproductive function and quality of life¹.

Highly variable clinical presentations of uterine fibroids rely heavily on size, number, and location of fibroids. Symptoms of uterine fibroids include abnormal uterine bleeding, pelvic fullness, or pressure and infertility³. However, atypical presentations may occur when fibroids undergo degeneration including hyaline, cystic, red, or necrotic changes, or when they attain considerable size. Subserosal fibroids, in particular, have the potential to exert mass effect on adjacent pelvic structures, including the bowel, bladder, and ureters³. Intestinal Obstruction due to uterine myomas are extremely uncommon with very few reported instances in the medical literature. Adhesions are the primary cause of small bowel obstruction, representing the majority of cases, whereas obstructions caused by masses and tumors account for less than 5% of case⁴. Within this small subset, uterine fibroids represent an unusual but mechanically plausible cause of obstruction, especially when subserosal fibroids develop extensive adhesions to intestinal loops or directly compress the bowel lumen⁵. The diagnostic challenge is further compounded when necrosis and superadded infection occur, as these features may mimic other acute abdominal pathologies such as perforated viscus, diverticulitis, or complicated ovarian masses.

The diagnosis of uterine fibroids is often initially established through transvaginal or abdominopelvic ultrasound, which is considered the first-line imaging modality for this condition³. However, in cases of suspected bowel obstruction, computed tomography (CT) offers superior diagnostic accuracy by delineating the transition point and identifying the causative lesion⁵. In resource-limited settings, where advanced imaging may be unavailable, the diagnosis can be particularly challenging, necessitating a high index of suspicion and often relying on clinical judgment and intraoperative findings.

A case of a 30-year-old woman with acute small bowel obstruction, due to large necrotic subserosal uterine leiomyomas, which are complicated further by intra-abdominal infection is to be presented here. This illustrates how resource-limited settings lead to diagnostic difficulties and directs the importance of considering gynecological pathology as a component of the differential diagnosis for acute abdomen in women of reproductive age.

CASE REPORT

A 30-year-old female, presented to a peripheral health facility, with severe abdominal pain, progressive abdominal distension and shortness of breath over a two-day period. She had associated vomiting, constipation, increased urinary frequency and urgency. Patient however denied having fever, diarrhea, or vaginal bleeding. The is patient with no obvious remarkable gynecological history, however, she is a multiparous woman with a parity of 3, regular menstrual cycle of 4 days in every 29-to-30-day, moderate

flow. Therefore, negates heavy menstrual bleeding, dysmenorrhea nor bleeding with clots, her menarche was at age 15. On arrival vitals were unremarkable except for a heart rate of 125 beats per minute(bpm).

She also presented with slight pain on examination, with abdominal distension, not tender but with a firm palpable irregularly shaped mass with a symphysio-fundal height of 34cm, and hyper-tympanic percussion notes. Bowel sounds were present and high-pitched.

Laboratory tests including full blood count, renal and liver function tests are summarized in **Figures 1,2 and 3.**

A bedside Abdominopelvic ultrasound was done and suggested a uterine mass of 16x17cm; however , images were not printed out.

Additional imaging such as CT was not done, because we are in a low resource setting health facility where advance imaging is not readily available.

Subsequently, the patient's condition worsened, with signs of peritonitis- generalized abdominal tenderness, guarding, rigidity, and absent bowel sounds. Pulse oximetry showed a drop in oxygen saturation fluctuating between 89 to 94% on room air.

An emergency exploratory laparotomy with myomectomy was done (Fig D). Intraoperative findings revealed three sub serosal uterine fibroids (Fig A), the largest of which was necrotic and measured 24cm x 16cm with a weight of 2.6kg (Fig C). Dense, thick fibrinous adhesions were identified, firmly tethering the necrotic uterine fibroids to multiple adjacent loops of the small bowel (Fig B), thereby confirming the diagnosis and mechanism of small bowel obstruction. Additionally, approximately 2 liters of frank pus were present in the abdominal cavity, indicating a severe localized intra-abdominal infection.

Postoperatively, she was kept strictly nil per os (NPO) and nasogastric decompression was done. She kept on maintenance iv fluids and potassium, iv clindamycin and gentamycin, and thromboprophylaxis (enoxaparin).

Post operatively, she recovered well with no early surgical or other complications and was discharged one week later. She was scheduled for a series of follow-up appointments on out-patient basis

DISCUSSION

Uterine fibroids are a gynecological benign smooth muscle neoplasm with incidence on the rise, affecting around 25% of women in their reproductive age while causing symptoms in around 25% of the patients.

The symptoms of uterine fibroids include abnormal uterine bleeding (AUB), pelvic fullness, and infertility. One extremely rare presentation is bowel obstruction with relatively few cases documented in literature. Predisposing factors for uterine fibroids include nulliparity, early menarche (< 10 years), obesity, family

history.⁶ While adhesions remain the top most common risk factor for bowel obstruction, masses and neoplasms account for 5% of cases, with fibroids falling under the same category.⁴

Uterine fibroids can cause intestinal blockage, which is extremely uncommon and can be challenging to diagnose, particularly in settings with limited resources. Sub serosal fibroids may generate adhesions that result in mechanical obstruction or impose a mass effect on the bowel loops. Adhesions are the most common risk factor for small bowel obstruction with masses and neoplasms accounting for a significantly lesser number of cases ⁴

The clinical presentation is usually related to the location, type, and size of the mass, while history and physical examinations guide adequately to the diagnosis, a significant amount of asymptomatic cases have resulted in transvaginal ultrasound imaging being considered the first and most diagnostic modality for this condition.³ With respect to bowel obstruction, CT scan is superior in terms of its advantage of guiding to the cause of the obstruction like fibroid in this case.⁵

The pathophysiological cascade observed in this case highlights a rare but severe complication of massive subserosal leiomyomas. As the dominant 2.6 kg fibroid outgrew its vascular supply, it underwent extensive ischemia resulting in tissue necrosis. This necrotic environment served as an optimal nidus for secondary bacterial colonization, likely via bacterial translocation from the adjacent compressed bowel, culminating in the severe intra-abdominal infection and the accumulation of purulent exudate. The presence of necrotic tissue and free intra-abdominal pus triggered a robust and rapid inflammatory response. This severe localized peritonitis facilitated the outpouring of a fibrinous exudate, which was organized into the dense adhesions observed between the degenerating fibroid and the small intestine. Consequently, the mechanism of bowel obstruction in this patient was multifaceted but predominantly adhesion-driven: the initial mass effect of the large tumor caused spatial crowding, but the acute mechanical obstruction was ultimately precipitated by the intense, infection-driven adhesive bands tethering and kinking the bowel loops.

Necrosis and intra-abdominal pus in this instance suggested a subsequent infection. To remove the impediment and stop more problems, prompt surgical intervention was necessary. This instance emphasizes how crucial it is to take gynecological factors into account when making a differential diagnosis for women's acute abdomen.

CONCLUSION

Intestinal obstruction is one of the uncommon but potentially fatal side effects of uterine fibroids

When assessing abdominal masses in women of reproductive age, especially when they are accompanied by symptoms of bowel dysfunction and systemic illness, clinicians should exercise a high index of suspicion

Declarations

AUTHORS DECLARATION

All authors have read and approved the final version of the manuscript; Corresponding Author had full access to all the data in this Report and takes complete responsibility for the integrity of the data and Information provided in this Report

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest

TRANSPARENCY STATEMENT:

The lead author affirms that this manuscript is an honest, accurate, and transparent account of the clinical events being reported; that no important aspects of the report have been omitted; and that any discrepancies noted during clinical management of patient have been explained in the report

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Author Contribution

Authors' Contributions Initials Key: • G.M.N.W. – Dr. Gildas M. Ngman-Wara • J.M.S. – Dr. James Mwinsumbo Sunkari • A.H.A.U. – Dr. Abdul-Hafiz Atta-Ullahi • T.A. – Dr. Timothy Anzagira • S.W.L.C.A. – Dr. Severin Wedaga Llewellyn Caesar Avogo • P.B. – Dr. Pokperlaar Biidobi • M.M. – Dr. Memunatu Mustapha • E.A.E.K.A. – Dr. Enoch Agbevava Eyram Kofi Akpeloo G.M.N.W.: conceptualized the case report, supervised the patient's surgical management, and contributed to drafting the manuscript. J.M.S. -: performed the literature review, organized the clinical data, prepared Figure 1–3 and intraoperative figures, and wrote the main manuscript text. A.H.A.U., T.A., S.W.L.C.A., P.B., M.M., and E.A.E.K.A. -: participated in the perioperative clinical management of the patient, intraoperative data acquisition, and laboratory data collection. All authors read, critically revised, and approved the final manuscript.

PATIENT CONSENT

A verbally and Written informed consent was obtained from the patient for publication of this case report and any accompanying images

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Figures

Parameter Name	Method	Value	Unit	Reference Range
WBC	-	19.46	10 ³ /uL	4.60-10.20
RBC	-	4.77	10 ⁶ /uL	2.50-5.50
Hb	-	14.2	g/dL	12-16
HCT	-	38.8	%	37.7-53.7
MCV	-	81.3	fL	75.00-97.00
MCH	-	29.8	pg.	27.00-31.20
MCHC	-	36.6	g/dL	32.00-36.00
PLT	-	306.0	10 ¹² /L	140-450
RDW~SD	-	38.5	fL	37.02 -54.0
RDW-CV	-	13.0	%	11.0 - 16.0
PDW	-	11.2	fL	9.0 - 17.0
MPV	Laser Flowcytometry	10.1	fL	9.0 - 13.0
P-LCR	-	26.3	%	9.0 - 13.0
PCT	-	0.31	%	0.17 - 0.35
NRBC#	-	0.0		0.00-0.11
NRBC%	-	0.0	%	
NEUT	-	17.68	10 ³ /uL	2.00 - 7 .00
Lymph#	-	0.79	10 ³ /uL	1.00-3.70
MONO#	-	0.82	10 ³ / μ L	0.00-0.70
EOS#	-	0.0	10 ³ / μ L	0.00-0.40
BASO#	-	0.17	10 ³ / μ L	0.00-0.10

Figure 1

Full Blood Count results show significant leukocytosis with neutrophilia

Parameter Name	Method	Value	Unit	Reference Range
Urea	-	8.09	mmol/L	2.6-6.7
Creatinine PAP	-	55.3	umol/L	45-84
Sodium	-	130.5	mmol/L	135-145
Potassium	-	3.92	mmol/L	3.5-5.5
Chloride	-	94.8	mmol/L	97-107

Figure 2

Renal Function Test (Blood Urea, electrolytes and Creatinine)results show impaired renal function, characterized primarily by an elevated Urea level and low Sodium and Chloride levels)

Parameter Name	Method	Value	Unit	Reference Range
AST. (SGOT)	-	50.3	U/L	0 - 45
ALT. (SGPT)	-	37.8	U/L	0-31
Alkaline Phosphatase(IFCC)	-	109.0	U/L	35-105
Gamma GT	-	18.8	U/L	1-38
Bilirubin Total	-	20.18	umol/L	1.7-21
Bilirubin Direct	-	9.67	umol/L	0-5.1
Total Protein	-	63.55	g/l	66-87
Albumin (gl)	-	34.53	g/l	35-50

Figure 3

Liver Function Test Result showing a mild mixed liver-test abnormalities and mild hypoalbuminemia

Supplementary Files

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