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Giant uterine fibroid with phlegmona of the anterior abdominal wall

Alfiya G. Yashchuk, Ilnur I. Musin, Polina A. Berg, Raisa A. Naftulovich, Zulfiya M. Galanova, Albina G. Imelbaeva, Maria N. Makarova, Alica R. Khasanshina

Bashkir State Medical University, Ufa, Russia

ABSTRACT

This report presents a rare case of giant uterine fibroids in a 52-year-old patient, which was complicated by phlegmon of the anterior abdominal wall. Physical examination revealed skin necrosis above the navel, measuring 12×10 cm, with purulent content. On palpation, a space-occupying formation reaching the xiphoid process was noted, indicating an abdominal distension. The patient underwent surgery as planned; a suppurated section of the anterior abdominal wall, extending to the aponeurosis, was placed on the operating table. An inferomedial laparotomy with excision of a necrotic, suppurating area of the anterior abdominal wall was performed. Furthermore, a mass in the abdominal cavity was removed using a blunt and sharp method, and extirpation of the uterus and appendages was conducted. Histological examination revealed a giant uterine leiomyoma with stromal hyalinosis and omentitis. The patient was discharged on postoperative day 10 in satisfactory condition. No complications were observed during the postoperative period. Advanced uterine fibroids are common, and ignoring the need to undergo regular medical examinations and insufficient medical examination coverage can lead to such complications, which can significantly affect the quality of life of patients.

Keywords: leiomyoma; uterine neoplasms; fibroid uterus; cellulitis; case report.

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Гигантская миома матки с флегмоной передней брюшной стенки

А.Г. Ящук, И.И. Мусин, П.А. Берг, Р.А. Нафтулович, З.М. Галанова, А.Г. Имельбаева, М.Н. Макарова, А.Р. Хасаншина

Башкирский государственный медицинский университет, Уфа, Россия

АННОТАЦИЯ

Представлен редкий случай гигантской миомы матки, осложнённой флегмоной передней брюшной стенки, у 52-летней пациентки. При визуальном осмотре выявлен некротический участок кожи над пупком размерами 12×10 см, с гнойным содержимым. Живот при пальпации увеличен за счёт объёмного образования, доходящего до мечевидного отростка. Пациентка прооперирована в плановом порядке, на операционном столе установлен нагноившийся участок передней брюшной стенки, распространяющийся до апоневроза. Произведена нижнесрединная лапаротомия с иссечением некротизированного нагноившегося участка передней брюшной стенки, объёмное образование брюшной полости тупым и острым путём отсечено от передней брюшной стенки. Произведена экстирпация матки с придатками. Гистологическое исследование выявило гигантскую лейомиому матки с гиалинозом стромы, оментит. Пациентка выписана на 10-е сут послеоперационного периода в удовлетворительном состоянии. Послеоперационный период протекал без осложнений. Наличие запущенных случаев миомы матки нередко встречается в практике акушера-гинеколога. Игнорирование пациентами необходимости регулярных медицинских осмотров и недостаточный охват диспансеризации приводит к наличию подобных осложнений, которые могут значительно влиять на дальнейшее качество жизни пациентов.

Ключевые слова: миома матки; осложнения миомы матки; гигантская миома; флегмона; клинический случай.

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巨大子宫肌瘤伴前腹壁蜂窝织炎

Alfiya G. Yashchuk, Ilnur I. Musin, Polina A. Berg, Raisa A. Naftulovich, Zulfiya M. Galanova, Albina G. Imelbaeva, Maria N. Makarova, Alica R. Khasanshina

Bashkir State Medical University, Ufa, Russia

摘要

介绍一例罕见的巨大子宫肌瘤并发前腹壁蜂窝织炎的病例，患者为52岁女性。肉眼检查发现，脐部上方有一块面积为12×10厘米的皮肤坏死区，有化脓性内容物。腹部触诊增大，因为肿块的体积到达了输尿管。患者按计划接受了手术。手术台上发现前腹壁有一处化脓区域，并蔓延至肌腱膜。医生对患者进行了下中线开腹手术，切除了前腹壁的坏死化脓区域。用钝器和锐器将腹腔体积较大的肿块从前腹壁切下。对子宫及附件进行了切除。组织学检查发现，患者患有巨大子宫肌瘤、间质透明变性和网膜炎。患者于术后第 10 天出院，情况良好。术后无并发症。在妇产科医生的临床实践中，子宫肌瘤的晚期病例并不少见。患者忽视定期体检的必要性以及体检覆盖面不足导致了此类并发症的出现，这可能会极大地影响患者未来的生活质量。

关键词： 子宫肌瘤；子宫肌瘤并发症；巨大肌瘤；蜂窝织炎；临床病例。

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INTRODUCTION

Uterine fibroids are the most common benign uterine tumors and the second most common gynecological disease. This is a monoclonal tumor of the smooth muscle of the uterus that arises from myometrial stem cells [1]. Uterine fibroids are most commonly detected between ages of 35 and 55 (90% of cases), with a peak incidence in the premenopausal period. Uterine fibroids can vary in size from a microscopic lesion to a giant myomatous nodule that grossly deforms the uterine cavity. Large myomatous nodules are those greater than 4.0 cm in diameter; giant fibroids are those greater than 9.0 cm in diameter and weighing at least 800 grams [2]. Uterine fibroids are the most common indication for gynecologic surgery. For example, approximately 175,000 hysterectomies and 20,000 myomectomies are performed each year in the United States [3].

The risk of malignant transformation of uterine fibroids is very low, with the prevalence of leiomyosarcoma estimated at approximately 1 (0.25%) per 400 women after surgery for fibroids [4].

In most cases, fibroids are asymptomatic, but they often manifest as heavy, irregular, and prolonged uterine bleeding, leading to iron deficiency anemia, pelvic pain, dyspareunia, and fertility problems [5]. The growth of fibroids can lead to unilateral or bilateral ureteral obstruction, resulting in retrograde urine flow and hydronephrosis [6]. Several papers report cases of acute urinary retention in patients with fibroids [7–9]. The growth of fibroids can lead to a fistula between the uterus and the bladder, causing symptoms such as hematuria, abdominal pain, and urine leakage from the vagina [10]. Uterine fibroids can also cause neurogenic bladder. By compressing the bladder, these fibroids increase signaling to proprioceptive sensory receptors, thereby increasing urinary frequency [11].

Fibroids can be diagnosed by physical examination and ultrasound, which is very sensitive for this condition [12].

In addition to the above-mentioned methods of fibroid diagnosis, comprehensive magnetic resonance imaging is used as the most informative, sensitive, and non-invasive modality using dynamic contrast enhancement and magnetic resonance spectroscopy to evaluate the histological structure, biochemical characteristics, severity, and reversibility of metabolic changes in the uterine fibroid and its blood supply [13].

Planning the scope of medical intervention and monitoring depends on the results of diagnostic tests and identified complications.

Uterine fibroids can cause some other rare complications. Their study is complicated by the lack of information on rare fibroid complications, as a literature review found no similar cases of anterior abdominal wall cellulitis with fibroids.

Our paper presents a rare case of giant uterine fibroid complicated by anterior abdominal wall cellulitis in a 52-year-old patient who underwent surgery at the Bashkir State Medical University (BSMU) Clinic (Ufa).

CASE DESCRIPTION

Patient T, 52 years old, was admitted to the Gynecology Department of BSMU Clinic in August 2022 for routine evaluation to determine the cause of periodic lower abdominal pulling pain, mainly on the left side, and painless abdominal enlargement, which she noticed in 2021.

The patient presented with inactive chronic combined grade 2 hemorrhoids, chronic parenchymal pancreatitis with exocrine insufficiency, chronic superficial gastritis, bilateral hydronephrosis, right pyelectasis, and hepatomegaly.

Obstetric and gynecologic history included menarche at the age of 14 years, regular, painful, heavy periods lasting 7–10 days every 21 days. The patient had a history of three pregnancies and three vaginal deliveries. Menopause lasted for 3 years. The patient underwent appendectomy in 1987, cervical excision due to ectopia of columnar epithelium on the vaginal part of the cervix in 1997, uterine fibroids with subsequent suppuration in 2016 (laparoscopy, histology confirmed uterine leiomyoma, healing by secondary intention).

Status localis. On palpation, the abdomen was enlarged due to a mass that reached the xiphoid process. A 12 cm × 10 cm necrotic lesion with purulent contents was found above the umbilicus. The abdominal mass was mobile and painless. A typical "lemon peel" lesion was visualized below the umbilical ring.

Per vaginum. The patient had a parous vagina. The cervix was smooth, shortened, up to 2 cm long, cylindrical, the external os was closed, mobile, painless on palpation. The uterus was painful on palpation; no infiltration was observed in the area of the lateral fornices. The uterus and ovaries could not be palpated due to a peritoneal mass. The discharge was mucous and cloudy.

Laboratory and instrumental tests before hospitalization were as follows: complete blood count dated 7 August 2022: white blood cells (WBC) 15.45×10^9/L, red blood cells (RBC) 3.98×10^{12}/L, erythrocyte sedimentation rate (ESR) 61 mm/h; urinalysis dated 7 August 2922: urine specific gravity 1030, protein 0.3 g/L, very few leukocytes per field of view; blood chemistry dated 7 August 2022 (protein 69 g/L, glucose 4.9 mmol/L, bilirubin 20.0 μmol/L, aspartate aminotransferase 43 U, alanine aminotransferase 35 U).

Computed tomography (CT) of abdomen and pelvis dated 10 August 2022 showed an abdominal and pelvic mass; diffuse lesions in pancreatic parenchyma; signs of chronic cholecystitis, cystitis; cysts in right lobe of liver; a cyst in the right kidney; mild hydropericardium.

Electrocardiography dated 7 August 2022 showed sinus tachycardia with a heart rate of 110/min.

Echocardiography dated 9 August 2022 showed the left ventricular chamber dimension at end diastole of 5.6 cm, ejection fraction of 68%; aortic thickening; pericardial effusion of 150 mL.

Laboratory findings after hospitalization were the following: complete blood count dated 20 August 2022:

WBC 25.2×10^9/L, hemoglobin 99 g/L, platelets 724×10^9/L, RBC 2.81×10^{12}/L, hematocrit 29%); blood biochemistry dated 20 August 2022 (aspartate aminotransferase 19 U/L, alanine aminotransferase 14 U/L, total bilirubin 18.2 μmol/L, creatinine 70 μmol/L, urea 9.1 mmol/L, glucose 5.2 mmol/L, total protein 53 g/L).

Coagulation test dated 20 August 2022 showed activated partial thromboplastin time of 32.6 s; international normalized ratio of 1.32, prothrombin index of 79%, prothrombin time of 19.5 sec.

Magnetic resonance imaging of the abdomen and pelvis dated 20 August 2022 showed a heterogeneous 258 mm×290 mm×267 mm mass with distinct uneven contours, density of +35 HU, extending from the pelvis, compressing the abdominal organs and the retroperitoneal space, and unevenly accumulating contrast up to +42 HU during phase II contrast enhancement. Arteries and calcified inclusions were visualized within the mass. The uterus was not differentiated.

Surgery was performed on 22 August 2022. After examination, a laparotomic hysterectomy with appendectomy was performed under general anesthesia with excision of a necrotic lesion in the anterior abdominal wall. The pelvis was cleaned and drained.

The surgical site included a purulent lesion in the anterior abdominal wall up to an aponeurosis. A lower midline laparotomy was performed with excision of the necrotic, purulent lesion in the anterior abdominal wall (Figure 1). When the abdomen was opened, up to 100 mL of cloudy exudate was found. A dense, nodular, circumscribed, mobile abdominal mass up to 50 cm×60 cm in size was observed, extending into the subhepatic space and under the diaphragm, occupying the right and left lateral canals, and extending retroperitoneally. It was fused with the anterior abdominal wall and small intestinal loops. Small intestinal loops were separated from adhesions by blunt and sharp dissection. The mass was separated from the abdominal wall by blunt and sharp dissection.

Fig. 1. Excised anterior abdominal wall of patient T aged 52 years with uterine fibroids.

The left fallopian tube was up to 10 cm long. It was brought out into the wound with technical challenges. The left ovary was 2 cm×2 cm, whitish in color. The right appendages involved in the adhesion process were not determined.

The uterus and appendages were removed. Continuous Vicryl sutures were used for peritonization. The greater omentum was resected. The pelvic cavity was drained through the right iliac region using a 25 mm diameter polyvinyl chloride tube. A cellulitis lesion in the anterior abdominal wall was removed within healthy tissue. The anterior abdominal wall layers were separated. Two drains were used to actively drain the subgaleal space and the infiltration lesion in the anterior abdominal wall. The anterior abdominal wall was sutured by layers. The skin was sutured with few interrupted sutures to avoid tissue ischemia. Total blood loss was 200 mL. Catheterized urine was light, 300 mL.

Macroscopic examination was performed for uterus with cervix (whitish tissue with cavities at the incision, gelatinous contents of cavities, and necrotic elements), uterine appendages, removed greater omentum, skin of anterior abdominal wall with necrotic site.

The postoperative diagnosis was a giant uterine fibroid complicated with anterior abdominal wall cellulitis. Comorbidities included inactive chronic combined grade 2 hemorrhoids, chronic parenchymal pancreatitis with exocrine insufficiency, chronic superficial gastritis, bilateral hydronephrosis, right pyelectasis, and hepatomegaly.

The patient was in the intensive care unit from 20 August to 23 August 2022. She received comprehensive treatment, including infusions, antibacterial and anticoagulant therapy, symptomatic treatment, and antiseptic wound treatment once a day. The post-operative period was uneventful.

Laboratory tests after surgery were as follows: complete blood count dated 23 August 2022: hemoglobin 90 g/L, WBC 17.6×10^9/L, RBC 2.67×10^{12}/L, platelets 498×10^9/L.

Coagulation test dated 23 August 2022 showed prothrombin time of 20.9 sec, prothrombin index of 74%, international normalized ratio of 1.44, fibrinogen of 6.0 g/L, thrombin time of 8.8 sec, activated partial thromboplastin time of 36.7 sec.

Complete blood count dated 24 August 2022 showed hemoglobin of 96 g/L, WBC of 12.3×10^9/L, ESR of 35 mm/h, RBC of 2.88×10^{12}/L, platelets of 490×10^9/L.

Blood chemistry dated 24 August 2022 showed total protein of 61.1 g/L, total bilirubin of 10.9 μmol/L, urea of 2.9 mmol/L, creatinine of 47.6 mmol/L, glucose of 4.76 mmol/L, C-reactive protein of 17 mg/L.

Urinalysis dated 24 August 2022 showed urine specific gravity of 1,005, clear light-yellow urine, negative for protein, very few leukocytes per field of view.

Ultrasound of the abdomen and pelvis dated 25 August 2022 showed that the uterus, cervix and ovaries

had been removed and the homogeneous vaginal cuff was visualized and had no disruption. Final diagnosis included moderate renal parenchymal edema, right caliectasis, hydrothorax, diffuse liver changes, chronic cholecystitis, chronic pancreatitis.

Histology dated 30 August 2022 showed a giant uterine leiomyoma with stromal hyalinosis, hydropic stromal transformation, active vascularization; chronic salpingitis, serous paratubal cyst, abscess of the anterior abdominal wall, omentitis.

At discharge (day 10 after surgery) the patient had no complaints. The abdomen was soft and painless on palpation. The dressings were clean and dry. Bowel movement and urine output were normal. After postoperative wound treatment with 0.5% alcohol antiseptic solution, postoperative sutures were clean with no disruption. At the site of the left subcutaneous drainage, there was a clean epithelializing wound up to 2.5 cm in size. The dressing was changed.

Per vaginum. The patient had a parous vagina. The vaginal cuff was clean, painless on palpation and had no disruption. No pelvic infiltrates or lesions were found. Discharge was mucous.

The patient was discharged in satisfactory condition on 31 August 2022. She spent 12 bed days in hospital.

DISCUSSION

Uterine fibroids can remain asymptomatic throughout reproductive life and are diagnosed due to complications in approximately 30%–40% of cases [14].

The location of the fibroid is a key factor for developing any complication [15].

In very rare cases, uterine fibroids can cause rare complications such as thromboembolism, twisting of the pedicle of the subserous myomatous node, renal failure, ischuria, hemoperitoneum, mesenteric vein thrombosis, and intestinal gangrene [16].

A paper by Romanian authors describes a rare case of hemoperitoneum caused by fibrous degeneration in a 38-year-old patient with uterine fibroids. In this case, pelvic computed tomography showed a 64 mm × 88 mm × 68 mm lesion arising from the lower uterine wall with a vascular pedicle [17].

Nearly 100 cases of hemoperitoneum associated with uterine fibroids have been reported in the literature [18], but no cases complicated by anterior abdominal wall cellulitis were found in the analyzed PubMed databases or Cochrane Library, indicating the great rarity of such cases.

CONCLUSION

Uterine fibroids are the most common benign tumors of the female reproductive system and should be monitored closely for growth and indications for surgical or medical treatment. The extent of surgery depends on the number, location, and size of the myomatous nodes, as well as on the complications that occur and aggravate the severity of the disease. Such conditions predict the presence and severity of potential postoperative complications and significantly affect the subsequent quality of life of patients.

ADDITIONAL INFO

Authors' contribution. P.A. Berg, M.N. Makarova, A.R. Khasanshina — article writing, analysis of literature data, collection of material; I.I. Musin — development of research design, collection of material; A.G. Yashchuk — development of the research concept, text editing, approval of the final version of the article; R.A. Naftulovich, Z.M. Galanova — text editing, material collection. All authors confirm that their authorship meets the international ICMJE criteria (all authors made a substantial contribution to the conception of the work, acquisition, analysis, interpretation of data for the work, drafting and revising the work, final approval of the version to be published and agree to be accountable for all aspects of the work).

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AUTHORS' INFO

***Polina A. Berg;**
address: 145-10 Komsomolskaya str., Ufa, 450096, Russia;
ORCID: 0000-0001-5266-0412;
eLibrary SPIN: 8996-8814
e-mail: p.a.berg@mail.ru

Alfiya G. Yashchuk, MD, Dr. Sci. (Medicine), Professor;
ORCID: 0000-0003-2645-1662;
eLibrary SPIN: 2607-9150;
e-mail: aig2@mail.ru

Ilnur I. Musin, MD, Cand. Sci. (Medicine), Assistant Professor;
ORCID: 0000-0001-5520-5845;
eLibrary SPIN: 4829-1179;
e-mail: ilnur-musin@yandex.ru

Raisa A. Naftulovich, MD, Cand. Sci. (Medicine), Assistant Professor;
ORCID: 0000-0003-2893-4844;
eLibrary SPIN: 6550-4163
e-mail: Raisanaftulovich@mail.ru

Zulfiya M. Galanova, MD, Cand. Sci. (Medicine), Assistant Professor;
ORCID: 0000-0002-3570-1398;
eLibrary SPIN: 5763-5443
e-mail: galanova.zulfia@yandex.ru

Albina G. Imelbaeva, MD, Cand. Sci. (Medicine), Assistant Professor;
ORCID: 0000-0002-0558-1364;
eLibrary SPIN: 4869-5798;
e-mail: albina220588@gmail.com

Maria N. Makarova, 6th year student;
ORCID: 0009-0006-7806-0013;
e-mail: maria.medartz@gmail.com

Alica R. Khasanshina, 6th year student;
ORCID: 0009-0001-7801-6657;
e-mail: khasanshina.alisa@mail.ru

* Corresponding author / Автор, ответственный за переписку

ОБ АВТОРАХ

***Берг Полина Андреевна;**
адрес: Россия, 450096, Уфа, ул. Комсомольская, 145-10;
ORCID: 0000-0001-5266-0412;
eLibrary SPIN: 8996-8814;
e-mail: p.a.berg@mail.ru

Ящук Альфия Галимовна, д-р мед. наук, профессор;
ORCID: 0000-0003-2645-1662;
eLibrary SPIN: 2607-9150;
e-mail: aig2@mail.ru

Мусин Ильнур Ирекович, канд. мед. наук, доцент;
ORCID: 0000-0001-5520-5845;
eLibrary SPIN: 4829-1179;
e-mail: ilnur-musin@yandex.ru

Нафтулович Раиса Аркадьевна, канд. мед. наук, доцент;
ORCID: 0000-0003-2893-4844;
eLibrary SPIN: 6550-4163
e-mail: Raisanaftulovich@mail.ru

Галанова Зульфия Маратовна, канд. мед. наук, доцент;
ORCID: 0000-0002-3570-1398;
eLibrary SPIN: 5763-5443
e-mail: galanova.zulfia@yandex.ru

Имельбаева Альбина Гайнулловна, канд. мед. наук, доцент;
ORCID: 0000-0002-0558-1364;
eLibrary SPIN: 4869-5798;
e-mail: albina220588@gmail.com

Макарова Мария Николаевна, студентка 6-го курса;
ORCID: 0009-0006-7806-0013;
e-mail: maria.medartz@gmail.com

Хасаншина Алиса Рафисовна, студентка 6-го курса;
ORCID: 0009-0001-7801-6657;
e-mail: khasanshina.alisa@mail.ru