CASE REPORT OF PYOMYOMA PRESENTING AS ACUTE ABDOMEN

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ABSTRACT

Background: *Uterine leiomyomata is a common benign pelvic tumour in our environment. It usually presents with menstrual irregularities and pressure symptoms. Pyomyoma (suppurative leiomyoma) is a rare complication associated with degenerating leiomyoma which often results in serious complications. Though most reported cases have occurred in pregnant or postmenopausal women, we present a case of pyomyoma in a young Nigerian woman.*

Case presentation: *She is a 32-year old nulliparous housewife who presented with abdominal pain and swelling of 4 months duration and fever of 2 weeks duration. She had a history of leiomyoma having done an earlier ultrasound scan. She used some herbal medications prior to the worsening of symptoms. She also used several oral and intravenous broad spectrum antibiotics with no relief of her symptoms. Abdominal examination revealed a 28-week size pelvic mass, tender with differential warmth. Abdominopelvic ultrasound scan showed massive echo-rich intra-peritoneal free fluid collection with septations. With the clinical impression of an acute abdomen with pelvic abscess collection (coexisting with uterine fibroid), an exploratory laparotomy was done. Intra-operative findings revealed pyoperitoneum of 1.5 litres and a bulky uterus riddled with degenerating fibroids contained in intra-myometrial pus filled cavities in the uterus. The postoperative course surprisingly was uneventful.*

Conclusion: *Pyomyoma is rare and may be difficult to diagnose clinically especially when there is a non-specific presentation as in this patient. Prompt clinical suspicion, broad spectrum antibiotic use and surgical intervention can be life-saving.*

Keywords: *Uterine fibroid, pyomyoma, laparotomy.*

INTRODUCTION

Leiomyomata uteri are very common benign gynaecological tumours of the uterus[1]. They have been reported to be present in up to 50% of African American women[1] and up to 80% of Nigerian women. The true incidence is however unknown. Pyomyoma, otherwise known as suppurative leiomyoma are a rare complication resulting from infarction and infection of leiomyoma[1-6]. Diagnosis is often difficult to make pre-operatively but a high index of suspicion is required to facilitate an urgent surgical intervention as the condition is associated with high morbidity and mortality[4].

We present a report of pyomyoma in a patient who presented with an acute abdomen.

CASE PRESENTATION

She is a 32-year nulliparous housewife who was referred from the surgical emergency unit of Alex Ekwueme University Teaching Hospital with a history of abdominal pain and swelling of four months and fever of two weeks duration. She had an ultrasound scan report done elsewhere which showed uterine fibroids. She was also scheduled for myomectomy at a private hospital four months prior to her presentation but defaulted due to fear of surgical procedures, resorting to use of some herbal medications and antibiotics which did not relieve her symptoms. These symptoms were associated with excessive vomiting, weight loss and anorexia.

On examination, she was an acutely ill-looking woman, febrile (temperature of 37.8^{0}C), pale, acyanosed, dehydrated with no pedal oedema. Pulse rate was 114 beats/minute, blood pressure was 110/80 mmHg and respiratory rate was 36 cycles per minute and the chest was normal on auscultation.

Abdominal examination showed an enlarged abdomen with irregular contours that moved with respiration. There was generalized tenderness with the presence of a 28 week size pelvic mass, mobile from side to side with differential warmth. Liver was 4 centimetres below the right subcostal margin and was tender. The spleen was not palpable and the kidneys were not ballotable. Pelvic examination revealed a normal vulva and vagina. The cervix was healthy looking and the os closed. Bimanual examination revealed a bulky uterus 28 week size, distorted cervical architecture (cervix was drawn up by the mass), tense and tender adnexae and pouch of Douglas. Cervical motion tenderness was negative. A working diagnosis of acute abdomen with pelvic abscess collection and co-existing uterine fibroids was made.

Results of requested investigations were as follows: PCV 18%, urinalysis showed ketones, serological tests were all normal (HIV, HBsAg), renal function test parameters were within normal ranges. Pregnancy test was negative. Liver function test was also normal. Abdominopelvic ultrasound scan showed massive echo-rich intra-peritoneal free fluid collection with septations. The ovaries and uterus could not be visualized, suggesting a possible pelvic abscess collection. She was worked up for exploratory laparotomy, received two units of blood preoperatively and was placed on intravenous broad spectrum antibiotics. She subsequently had exploratory laparotomy in conjunction with the General surgeons. Findings were pyoperitoneum of 1.5 litres, bulky uterus riddled with degenerated fibroids in pus filled cavities (four big fibroid masses, largest measuring 4 x 6 centimetres) located anteriorly and posteriorly with submucousal, serosal and intra-ligamentary components, endometrial rent measuring six centimetres in length, matted loops of guts, healthy looking ovaries and stretched fallopian tubes bilaterally. Estimated blood loss was 1000 millilitres. She had an intrauterine Foley catheter passed. The patient was also placed on equine oestrogen and broad spectrum antibiotics (Ceftriaxone, metronidazole and gentamycin). Microscopy and sensitivity done for the pus, isolated

Staphylococcus aureus which was sensitive to the antibiotics she was placed on. She surprisingly had an unremarkable post-operative period and was discharged home after 12 days on admission. She resumed normal menstruation a month after surgery and remained stable during the follow up period.

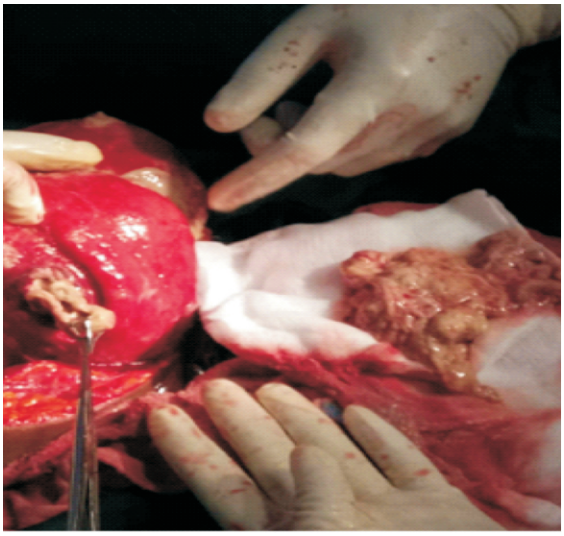

Fig 1. Showing the degenerated infected fibroid and the cavity within the myometrium

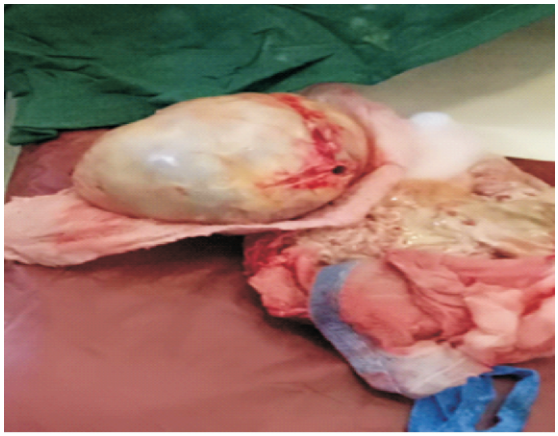

Fig 2. Showing removal of the degenerated infected fibroid from the uterus

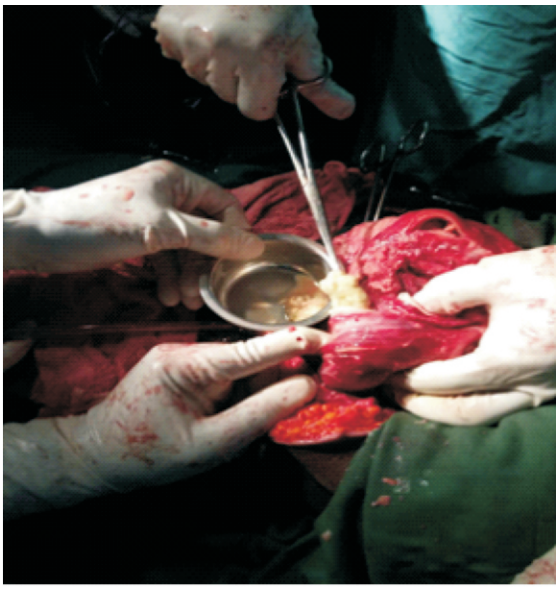

Fig 3. Showing the removed degenerated and infected fibroids.

DISCUSSION

Pyomyoma is rare and was first described in 1871 and by 1945, about 45 cases had been described[1]. Between 1945 and 2017, an additional 29 cases (including this case) were reported[7]. The incidence of Pyomyoma has reduced drastically due to availability of potent antibiotics[2]. This condition can occur from vascular insufficiency in postmenopausal women or necrosis during pregnancy. It can also arise from gynaecological procedures including insertion and removal of intrauterine contraceptive devices and uterine artery embolization[3,6,7,8]. Other conditions associated with it include pre-existing uterine and cervical infections at the time of the aforementioned procedures, advanced age, immunocompromized state and intravenous drug use[5,9]. The index patient did not have any of the aforementioned conditions but was noted to have ingested

some herbal medications two weeks prior to presentation. Other authors have also reported cases in which there was no apparent predisposing factor.

Pyomyoma occurs due to bacteria seedling of necrotic foci[2]. The route of infection is usually from a direct spread from the endometrial cavity, the adnexae or the bowel; haematogenous or lymphatic spread; or spread from a remote infectious source[3]. Organisms reported to cause Pyomyoma include *Clostridium* spp, *Staphylococcus aureus*, *Streptococcus milleri*, *Streptococcus haemolyticus, Proteus* spp, *Enterococcus faecalis* among others. *Staphylococcus aureus* was the offending organism isolated from our patient.

Diagnosis of Pyomyoma may be challenging as seen in the index patient[6]. The working diagnosis was acute abdomen with pelvic abscess collection and co-existing uterine fibroid. The diagnosis of Pyomyoma was made intra-operatively as the history, physical examination findings and ultrasound report were non-specific. It is evident from available literature that there may be difficulty in making a diagnosis of pyomyoma[1,4]. Computed axial tomography and magnetic resonance imaging are imaging modalities that can help in making an accurate diagnosis pre-operatively[10]. This was not done in our patient as it was not available.

The treatment offered to a patient with Pyomyoma is dependent on the mode of presentation. Conservative management, in which patients are placed on broad spectrum antibiotics, analgesics, intravenous fluid; surgical management including total abdominal hysterectomy only or in addition to bilateral salpingoophorectomy and myomectomy are all options of management. Factors that determine which option to offer a patient include pregnancy, haemodynamic status of the patient and future reproductive considerations[11,12]. The index patient had drainage of the abscess collection, myomectomy and broad spectrum antibiotics cover. She did very well on this treatment.

Pyomyoma as a condition should be considered as a differential diagnosis in the setting of unexplained pelvic abscess collection in the background of uterine fibroid and no prior history or current history of pelvic inflammatory disease or any other possible predisposing factor to such presentation. Proper work up and resuscitation, exploratory laparotomy with myomectomy and broad spectrum antibiotic cover is enough treatment.

The uniqueness of this case is that besides the history of having been diagnosed of having uterine fibroids before presentation, there were no other associations like recent pregnancy, previous vaginal or uterine instrumentation and she was not peri-menopausal as in other reported cases of Pyomyoma. She however used some oral herbal concoctions in a bid to treat herself of the uterine fibroids.

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