

Uterine rupture secondary to pyomyoma leading to intraabdominal abscesses following an uncomplicated vaginal delivery

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Abstract

BACKGROUND: Uterine leiomyomas are benign monoclonal tumors that develop from the smooth muscle cells and fibroblasts of the myometrium. Prevalence of leiomyomas during pregnancy is 10.7% across all races. Usually, fibroids are asymptomatic during pregnancy. When symptomatic, pain is the most common complaint. Pyomyoma, or suppurative leiomyoma, is an extremely rare complication of fibroids in the peripartum period that results from infection or necrosis of a fibroid due to hemorrhage or decreased blood flow. A rare complication of a pyomyoma is spontaneous uterine rupture. The following case report describes the labor and postpartum course of a primipara complicated by intraabdominal abscesses secondary to a ruptured pyomyoma.

CASE PRESENTATION: Patient is a 31-year-old G2P0111 who presented to the emergency department (ED) on postpartum day 7 after a spontaneous preterm vaginal delivery due to PPROM complaining of right lower quadrant abdominal pain, ongoing since discharge. The patient had a known history of a subserosal, left anterior uterine fibroid measuring 3.8 x 3.2 x 4.0 cm. Her pregnancy was complicated by iron deficiency anemia and COVID-19. In the ED, she was afebrile, had significant right lower quadrant abdominal tenderness, yet no acute abdomen, and leukocytosis of 17.4 x 10⁹/L. Computer tomography (CT) of the abdomen and pelvis showed evidence of several fluid collections, with the largest pocket in the right abdomen extending across the midline measuring 11.4 x 18.7 cm.

She was admitted and started on broad spectrum antibiotics with ampicillin, sulbactam and gentamicin. Interventional Radiology (IR) was consulted for possible intervention and performed a percutaneous drainage of the largest abscess, yielding 900 cc of yellow, purulent fluid that was sent for culture, which was positive for *Fusobacterium nucleatum*. Though the patient remained afebrile, her abdominal pain continued and leukocytosis worsened despite continued broad spectrum antibiotics and minimal output from drain. Repeat CT imaging of the abdomen/pelvis showed nonspecific colitis from the cecum to the transverse colon with decreased, yet significant, fluid collections despite drain placement. Decision was made for surgical exploration and a diagnostic laparoscopy with conversion to an exploratory laparotomy was performed. The patient underwent extensive lysis of adhesions, a small bowel resection, and drainage of intraabdominal abscesses. Upon evaluation of the uterus, a defect was noted at the location of the previously noted subserosal fibroid with similar dimensions. The uterine defect was repaired with interrupted stitches after a sample of the surrounding tissue was collected to be evaluated by pathology. The pathology report for the surgical debridement revealed severe acute and chronic inflammation

and necrotic tissue with adjacent fibrous and smooth muscle, changes consistent with infarct of a fibroid. Her postoperative course was uncomplicated and she was discharged home in stable condition on hospital day 13.

DISCUSSION/REVIEW OF LITERATURE: Pyomyomas typically pre-sent with fever, leukocytosis, tachycardia, pelvic pain, and characteristic findings on imaging studies. On ultrasound, a heterogenous uterine mass with cystic components or air can be seen. On CT imaging, identifying calcifications, free peritoneal air, and purulent fluid or material may help support the differential. Imaging findings that can be suggestive of spontaneous uterine rupture include observing disruption of the wall of the pyomyoma with free intraperitoneal fluid and pneumoperitoneum. However, pyomyomas are ultimately a surgical diagnosis. Management of pyomyoma includes IV antibiotics and, in most cases, surgical management with hysterectomy. There have been few documented cases where pyomyoma have been managed more conservatively with antibiotics and CT guided drainage or myomectomy in order to preserve fertility, with our case being one of them.

CONCLUSION: To the best of our knowledge, there have been 9 cases of pyomyomas resulting in uterine rupture in the reported literature. This resulted in hysterectomy in 6 cases. This abstract reports a unique case of postpartum pyomyoma resulting in uterine rupture treated with primary repair, antibiotics, and uterine preservation.