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CAECAL VOLVULUS IN 27-WEEK PREGNANT LADY: A CASE REPORT

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Abstract:

Caecal volvulus is a rare entity during pregnancy and is a potentially life-threatening condition. We describe here the case of a 27-year-old pregnant woman at 27 weeks of gestation, presenting with acute abdominal pain. A series of images revealed it to be a caecal volvulus, and surgical intervention was required. In most circumstances, the gravid uterus of the patient would pose a challenge, but in this case, an exploratory laparotomy was done with no significant complications, and favorable outcomes were realized for both mother and child. Increased awareness is essential in optimizing outcomes and preventing complications of those very rare but potential-fatal conditions of pregnancy. This is a very important case because it brings out the need to promptly recognize, resuscitate swiftly, and effectively manage such conditions in a pregnant patient in order to avert the development of complications and optimize mother and fetal outcomes.

Keywords: *Caecal volvulus, acute abdominal pain, pregnancy, exploratory laparotomy, surgical intervention*

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INTRODUCTION:

The development of the caecal volvulus is a rare entity, where the twist around its mesentery of the caecum and ascending colon leads to obstruction and, in turn, is followed by ischemia of the bowel [1]. Albeit generally rare among the general population, its occurrence during pregnancy poses peculiar challenges given the anatomical and physiological gestation-invoked changes. Gravid uterus may modify presentation, diagnosis, and management of caecal volvulus and result in life-threatening complications for the mother and fetus [2]. There is, however, very little literature on caecal volvulus in pregnancy and most of it is made up of small case series and case reports, bringing to light diagnostic dilemmas of care providers, which are secondary to the overlap of symptoms with common pregnancy-related complaints like abdominal pain, nausea and discomfort [3]. There is a need for timely surgical intervention to prevent bowel ischemia and minimize the risks to the developing fetus at the same time while managing caecal volvulus during pregnancy [4]. In this context, we aim to contribute to the collective experience in the understanding of the caecal volvulus in pregnancy through our case presentation of the condition in a 27-week gravid woman. We are hopeful that by relating our case presentation and applying it in the recognition of this condition and appropriate management, which would otherwise optimize maternal and fetal outcomes, we have been able to combine the existing literature with our case presentation.

CASE SUMMARY:

Case Presentation: A 24-year pregnant woman, 27 weeks' gestation, presented at the emergency department of Combined Military Hospital (CMH) Muzaffarabad. She had been complaining of repeated vomiting, severe crampy type of abdominal pain with absolute constipation for the last four days. Later, she was admitted to the ward with a diagnosis of acute intestinal obstruction, resulting in septic shock. On examination, patient appeared toxic with a rapid pulse and a distended abdomen. Abdominal and pelvic ultrasound showed distended gut loops with moderate free peritoneal fluid. The consulting obstetrician diagnosed a 27 week live fetus in utero.

Surgical Intervention: Upon laparotomy, complete caecal volvulus with gangrene of the caecum, part of ascending colon, and terminal ileum was found. Gangrenous segments including the caecum, 15 cm ileum, and 15 cm ascending colon removed, and double barrel ileostomy was made.

Outcome: The patient made an uneventful recovery with survival of her pregnancy, indicating a favorable outcome for both mother and fetus.

DISCUSSION:

Caecal volvulus during pregnancy presents a complex clinical scenario that requires careful consideration of both maternal and fetal well-being [5, 6]. Even though the illness is uncommon, there are significant risks due to potential bowel ischemia, necrosis and obstruction **(Figure 1 and 2).**

Figure 1: Per operative finding showing clearly dilated caecum with necrotic changes over its wall

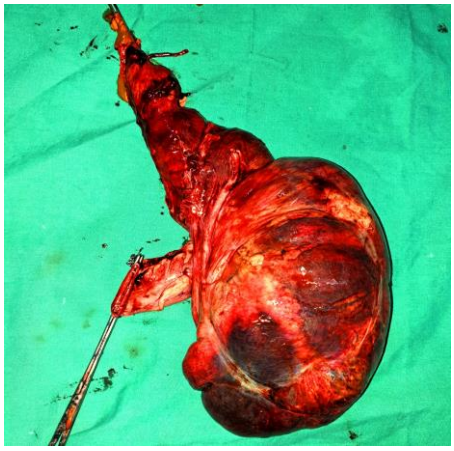

Figure 2: Axial twist of the caecum and its mesentery, leading to ischemia and necrosis of the anti-mesenteric surface

There are mutiple causes that include adhesions (58%), volvulus (25%), and intussusception (5%) among others that would usually account for most of the causative factors of intestinal obstruction in pregnancy. Among these, a rather larger proportion is due to cecal volvulus [7], occurring for the most part as a result of the non-fixation of the right colon, leading to axial torsion and subsequent obstruction [8, 9]. Contributing to approximately 1:2500 to 1:3500 pregnancies, this condition adds 1–2% of all cases of intestinal obstructions [10]. It is often related to a history of abdominal surgeries producing adhesions and points of fixation in the colon. This is further supported by research that indicates 23% to 53% of the cases of cecal volvulus occur in patients who have undergone previous abdominal surgeries, which can develop fixation points and serve as a pivot for the mobile right colon [11,12]. There are two major variants in the setting of cecal volvulus: one, in which the axial twist is above the ileocolic vessels, with early changes of ischemia and gangrene; the other is relatively rare, affecting the anterior folding of the cecum to the ascending colon, which usually does not present with prominent vascular compromise [13,14]. Pregnancy-related risk in cecal volvulus is augmented with gestational age, especially between the 16th and 20th week, due to rapid changes in uterine size [15,16]. This discussion combines findings from existing literature with our case study to elucidate key points regarding the presentation, diagnosis, management, and outcomes of caecal volvulus in the context of pregnancy.

Presentation and Diagnosis

Literature suggests that the presentation of caecal volvulus during pregnancy can be nonspecific, often

mimicking common symptoms of pregnancy such as abdominal discomfort and nausea. This can lead to diagnostic challenges and delayed treatment initiation. In present case, the patient presented with acute abdominal pain, prompting further investigation that revealed the volvulus.
Further case reports have also shown similar findings, stressing the importance of an extremely high index of suspicion of GI emergencies in pregnant patients presenting with any type of abdominal symptom. Imaging is hence diagnostic and helps in confirming the diagnosis of cecal volvulus. While abdominal ultrasound can be useful, computed tomography (CT) scan is considered the gold standard for diagnosis. However, concerns regarding fetal radiation exposure must be weighed against the diagnostic benefits, especially during the second and third trimesters of pregnancy.

Management Strategies

The team looking after the gravid cecal volvulus patient has to be working in very close collaboration, which includes an obstetrician, general surgeon, and an anesthetist, working jointly for an optimal outcome of mother and her unborn child. The primary goal is to relieve the bowel obstruction and restore adequate blood flow to the affected segment while minimizing risks to the fetus. Surgical intervention is often necessary, with options ranging from open laparotomy to laparoscopic detorsion and caecopexy. Literature suggests that laparoscopic approaches may offer advantages in terms of shorter hospital stays, reduced postoperative pain, and faster recovery, although caution must be exercised to prevent maternal and fetal complications during surgery.

Outcomes and Prognosis

This case underlines the importance of accurate and timely diagnosis. It is of paramount importance in clinching favorable outcomes in caecal volvulus during pregnancy, as is the need for timely intervention. In delayed treatment, sepsis occurring from bowel necrosis takes place, and thus adverse fetal outcomes are delivered. In early identification and proper management, both the mother and the fetus could be salvaged. Even existing literature gives mixed outcomes, some of the positive maternal and fetal outcomes in the case when surgical intervention was done but highlights complexities and challenges in managing this condition during pregnancy. Further sparse data of long-term maternal and fetal outcomes definitely make it a point of time to look upon with more investigation in this area. It may well become a very vital guiding tool in the formulation of management strategies to optimize the outcomes in this field.

CONCLUSION:

Much more rarely, cecal volvulus is seen as a rare entity in the course of pregnancy, yet one that mandates vigilant attention to ensure good outcomes for the mother and child. Our case report, like the multiple similar cases in the past, bear testimony to the importance of remaining ever vigilant for gastrointestinal emergencies in a pregnant patient presenting with abdominal symptoms. An interdisciplinary approach must be considered, resorting to timely surgical intervention if necessary, to seek and achieve positive outcomes in the treatment of difficult cases. Accordingly, further research is indispensable in the study to understand the best approaches to management and thereby achieve favorable long-term results of the volvulus of the cecum in pregnant patients.

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