



## Idiopathic Post-Partum Intussusception: A Case Report

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### Abstract

**Background:** Idiopathic post-partum intussusception is a rare cause of acute abdominal pain and the Aetiology is unknown. As the post-partum acute abdomen provides diagnostic challenges, the rare idiopathic post-partum intussusception would be an extremely difficult pre-operative diagnosis without a high level of suspicion or imaging.

**Case Presentation:** A 25-year-old black African woman presented with a gradual onset abdominal pain and vomiting of 5 days duration, post-vaginal delivery. A diagnosis of small bowel obstruction was made and she was resuscitated with intravenous hydration and nasogastric suction. An abdominal ultrasound 72 h from admission revealed intestinal intussusception as the cause. A laparotomy confirmed an ileo-ileal intussusception with no lead point. Following reduction, resection of a 30cm gangrenous ileum with primary anastomosis of viable ends was undertaken.

**Conclusion:** The case highlights the importance of assessing abdominal pain in the puerperium in a similar manner to that done in a non-pregnant state, to avoid delay in diagnosis.

**Keywords:** Idiopathic; Intussusception; Peripartum

### Background

Intussusception is defined as an invagination of one part of the bowel into another which leads to rapid compromise of the mesenteric blood flow with resultant strangulation obstruction. Hence, it must be treated with urgency. Intussusception in adults is treated as a symptom of an underlying condition and the precipitating condition is sought [1]. Idiopathic intussusception (i.e. with no lead point) occurs in infants during weaning and attributed to enlargement of Peyer's patches due either to a change in gut flora or to a viral infection [2]. It is rare to find a primary (idiopathic) type of intussusception in adults [3]. Idiopathic post-partum intussusception is a rare cause of acute abdominal pain and the Aetiology is unknown [4]. As the post-partum acute abdomen provides diagnostic challenges, the rare idiopathic post-partum intussusception would be an extremely difficult pre-operative diagnosis without a high level of suspicion or imaging [5,6].

### Case Presentation

A 25-yr-old woman was admitted as an emergency, 4 days post-partum with an 18 h history of an acute, gradual onset, colicky central abdominal pain which later became constant. This was associated with postprandial vomiting, central abdominal distension and a week of absolute constipation. She had a normal vaginal delivery of a healthy baby and had no antecedent history of a gastrointestinal illness or surgical operation. On examination she was clinically unwell and in severe distress. She was hypotensive (blood pressure: 96/62 mmHg, tachycardic (heart rate: 105/min), tachypnoeic (respiratory rate: 25 breaths/min), and had a mild pyrexia of 37.5°C. Abdominal examination revealed a centrally distended abdomen with generalized tenderness. Apart from a linea nigra and striae, there was no abdominal scar or hernia. A clinical diagnosis of small bowel obstruction was made for which resuscitation was commenced with intravenous hydration, nasogastric drainage of copious bilious intestinal fluid and intravenous administration of opiate analgesia and broad spectrum antibiotics. A full blood count revealed a hemoglobin level of 10 g/l and a leucocytosis of  $14 \times 10^9/l$ . She responded with less abdominal pain, a softer non-distended abdomen and a satisfactory urinary output. A tender mass became palpable in the right hypochondrium and a transabdominal ultrasound scan 72 h after admission revealed small bowel intussusception (Figure 1). A midline laparotomy confirmed an ileo-ileal intussusception with sero-sanguinous peritoneal transudate. Reduction of the intussusception revealed a 30 cm gangrenous segment of ileum. This was resected and small bowel anastomosis of the viable ends undertaken. Post-operative examination of the specimen showed no lead point. Apart from post-operative ileus,

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**Figure 1** : Ultrasonic image of small bowel intussusception with 'doughnut' sign and gangrenous change.

she made good recovery and was discharged on the 8<sup>th</sup> post-operative day.

## Discussion

Bowel obstruction is uncommon in pregnancy but it is most prevalent in the third trimester and puerperium [5]. Idiopathic postpartum intussusception is a rare cause of acute abdominal pain but remains an important differential diagnosis of the acute abdomen in the puerperium [4,5]. A high level of suspicion especially in a 'virgin' abdomen is required as it rapidly deteriorates to bowel infarction. Unlike adhesive small bowel obstruction conservative management inevitably fails as in this case. In addition, a patient should generally not be kept obstructed for more than 48 h [6,7]. Although a diagnostic barium enema may achieve reduction of the idiopathic intussusception of the infant by hydrostatic pressure, operative reduction is still indicated if hydrostatic reduction fails, or if there are features suggesting peritonitis from intestinal ischemia or necrosis [2]. Intussusception is very rare in pregnancy but a case of jejunal intussusception with no lead point has been reported in a 23-yr-old woman of 26 weeks gestation in her first pregnancy, and, there was no improvement with conservative management [8]. Kocako et al. [4] reported a case of idiopathic ileo-ileal intussusception i.e. with no lead point in a 21 yr old female during the early post-partum period requiring resection of the ischemic segment. Veitch et al. [9] reported intestinal intussusception following post-partum hysterectomy for severe hemorrhage. Initial conservative management for presumed post-operative ileus failed requiring the resection of an ischemic ileum within an ileo-ileal intussusception 7 days later. Again there was no lead point such as a tumour or mass. Reddy et al. reported intussusception following abdominal hysterectomy [10]. Thus, idiopathic intussusception is also a rare cause of post-operative bowel obstruction following gynecologic surgery. Post-partum problems resulting in pain or systemic illness include septic metritis, hemorrhage from uterine or ovarian vessels, gastrointestinal problems/colic, uterine laceration and uterine horn intussusception/uterine prolapse. Gastrointestinal problems include caecal rupture, rectal prolapse, trauma to the small intestine or mesocolon, and large colon volvulus [5,8,11]. They can be readily differentiated from primary reproductive tract problems [11]. Trauma to the small intestine may result in ischemic bowel necrosis. The source of this trauma is speculative and has been suggested to involve pressure placed on the

bowel by the position of the fetus in utero. Alternatively, acute trauma to the bowel could be caused by violent movements of the fetal's extremities during parturition. An abdominal ultrasonographic examination may be helpful in determining peritonitis and help rule out other, less frequent causes of postpartum abdominal pain such as intestinal intussusception [4-6]. However, it is often difficult or impossible to definitely differentiate between a compromised bowel and a uterine laceration, particularly if recently postpartum and the uterus is too large to examine in its entirety per vaginam. Definitive diagnosis may require laparotomy or laparoscopy [4,5]. It would be important to research upon the relative contributions of the hormonal/physiological changes in pregnancy on intestinal motility and the mechanical effects of the reproductive tract and the fetus in stimulating a 'physiological' lead point of intestinal intussusception in the peripartum setting.

## Conclusion

This case highlights the importance of assessing abdominal pain in the puerperium in a similar manner to that done in a non-pregnant state, to avoid delay in diagnosis of intussusception. Intussusception should also be considered in the differential diagnosis of patients having prolonged nausea and vomiting following gynecologic surgery. Acknowledgements: We acknowledge Dr Kingue for the perioperative care rendered and the social service for taking care of the financial needs of the mother and child.

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