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M. K. Kilonzo, MBChB, MMed, F. Ogutu, MBChB, R. J. Kosgei, MBChB, MMed, MSc and A. B. Kihara, MBChB, MMed, Senior Lecturer, Department of Obstetrics and Gynaecology, College of Health Sciences, University of Nairobi, P. O. BOX 19676-00202, Nairobi, Kenya

Request for reprints to: Dr. M. K. Kilonzo, Department of Obstetrics and Gynaecology, College of Health Sciences, University of Nairobi, P. O. BOX 19676-00202, Nairobi, Kenya

## AN IMPROBABLE DIAGNOSIS OF ACUTE ABDOMEN IN THE IMMEDIATE POST-PARTUM PERIOD: CASE REPORT

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### SUMMARY

**This is a case of perforated duodenal ulcer in the immediate post-partum period following Caesarean Section (C/S). Surgical exploration by a multidisciplinary team revealed a perforated duodenal ulcer. She recovered well after the exploratory laparotomy and was discharged for follow up as an outpatient.**

### INTRODUCTION

Peptic ulcer disease (PUD) is rare in pregnancy and the puerperium (1). The decreased frequency of PUD in pregnancy has been attributed to several factors including progesterone-associated increase in gastric mucus production, increased serum histaminase leading to increased histamine metabolism and reduced gastric acid secretion, and reduced exposure to ulcerogenic diet, alcohol, cigarette smoking and drugs such as NSAIDs and steroids in the pregnant state (1). There are no factors known to specifically predispose to peptic ulceration in the puerperium. However, stress and use of Non-steroid anti-inflammatory drugs (NSAIDs); which are common in the puerperium and more so in the post-Caesarean section patient, are known risk factors for ulceration (2, 3). The anticipation of surgery, its outcome and fear of pain are known stressors in the pre and post Caesarean Section patient.

The cardinal symptoms of perforated peptic ulcer include pain, nausea and vomiting, all of which are common symptoms in pregnancy and the early puerperium (4) and post Caesarean section but unlikely five days later having already initiated fluids and light diet. A diagnosis of perforated peptic ulcer in the post-partum period requires a high degree of clinical suspicion.

### CASE REPORT

We present a case of a 38-year-old para 1+0 gravida 2 who presented for antenatal follow up in our hospital at 18 weeks gestation by date. Her physical examination findings were normal. Her antenatal profiles were normal. Her antenatal period was uneventful. She did not suffer from any chronic illness including PUD and gastro-oesophageal reflux

disease (GORD).

She had a Caesarean delivery at 39 weeks gestation due to one Previous scar and a big baby. Pre-operatively she had no complains, physical examination findings and vital signs were normal. Her pre-operative work ups were also normal. She was fasted for four hours prior to C/S. A stat dose of intravenous Cefuroxime 750mg was given as pre-operative prophylaxis. Surgery was without incident. The outcome was a live male baby weighing 3.95Kg, with good APGAR scores.

Post-operatively she was put on Olfen suppositories 100mg BD for analgesia, intravenous cefuroxime 750 mg TDS, as well as three litres of normal saline per day for rehydration. On the second post-operative day she commenced oral Olfen, Betapayne and Cefuroxime. Her wound was exposed on the third post-operative day and was clean and dry, wound dressing was applied and she was discharged on the oral medication.

She was re-admitted on the fifth post-operative day with complains of projectile vomiting consisting of food just eaten, difficulty in breathing and sweating profusely since the previous night. These symptoms were preceded by very severe epigastric pain. She did not complain of fever or chills. On examination she was restless, dyspnoeic at rest with obvious flaring of alae nasae. Her BP was 90/40mmHg, and Pulse rate 120 beats per minute. Her temperature was sub normal at 35 °C. Her SPO<sub>2</sub> was 80%. Abdominal examination revealed a grossly distended abdomen that was not moving with respiration, had a dry and clean pfannenstiel wound, and generalised tenderness with guarding particularly in the epigastric region. The bowel sounds were markedly reduced. A blood gas analysis done showed a respiratory acidotic picture. Urea and Creatinine were normal, Potassium was slightly elevated while Sodium and Chloride

were both slightly reduced. A full haemogram showed leucocytosis and haemoglobin of 7.8gm% with a microcytic anaemic picture, platelets were normal. An erect chest X-ray done was normal, there was no visualised free air under the diaphragm. A pelvic Ultrasound reported free fluid in the pouch of Douglas, the uterus was 18 weeks, ovaries and adnexa were reported as normal.

A diagnosis of acute abdomen possibly due to a pelvic abscess with secondary septic shock to rule out intestinal obstruction or perforated viscus was made. Surgical consult was sought and the Surgeon and the Obstetrician reviewed the patient together. The team agreed that the patient had an acute abdomen that could have been from a pelvic abscess, an abdominal pack forgotten in the abdomen during C/S, torped and/or gangrenous intestines or adnexa and remotely a perforated viscus were considered. Decision was made to perform an emergency exploratory laparotomy. Meanwhile the patient was started on intravenous Cefuroxime and Flagyl, intravenous fluids and Oxygen by mask. A nasogastric tube was also inserted to decompress the gut. She was catheterised and strict input- output monitoring ordered. Two pints of grouped and cross matched blood was available in theatre. Intra-operatively, the abdomen was opened via a midline incision a gush of air with foecal odour was noted on opening the peritoneum. Biliary fluid was noted in the Pouch of Douglas, the uterus was well involuted and the suture line of the C/S wound was healing well, the ovaries and other adnexa were grossly normal. On exploration of the gut, a 2-centimetre-wide perforation was noted on the second part of the duodenum. The rest of the gut was normal. This was repaired by primary closure with placement of a Graham patch followed by a thorough peritoneal lavage. The abdomen was then done primary closure.

Post-operatively she was admitted in HDU and maintained on NGT, IV fluids, IV antibiotics, strict input-output monitoring, IV omeprazole 40 mg BD and IV Ranitidine 50mg TDS. She made significant clinical improvement and was discharged from HDU on the second post-operative day. On the third POD the NGT was removed and oral intake initiated. IV antibiotics were continued until the fifth post-operative day when she was discharged home in a stable condition and tolerating oral feeds well. She was discharged on oral antibiotics and omeprazole. She was reviewed in the outpatient clinic on the 10<sup>th</sup> post-operative day. She did not have complaints. She was well on physical examination and a debriefing of the patient and the spouse was made.

## DISCUSSION

Peptic ulcer disease and its complications occur in pregnancy and puerperium albeit rarely. There is

paucity in published work on peptic ulcer disease in the post- partum period. A few case reports have been published (5). The diagnosis is easily missed and has even been made at autopsy (6). Delayed intervention has been shown to worsen outcomes (7). Many of the patients do not have any identifiable risk factors for PUD or previous history of PUD. Acute abdomen in the puerperium and particularly in the post operative patients tends to be associated with paralytic ileus, puerperal sepsis, forgotten abdominal packs or intestinal obstruction.

Pain, nausea, and vomiting are the main symptoms of PUD. It must be remembered that nausea and vomiting are common symptoms in normal pregnancy affecting 50%-85% of pregnant women (4). Therefore, a history of nausea and vomiting in the antenatal period do not reliably predict increased risk of peptic ulceration in the immediate post-partum period. In addition, majority of women have non-specific abdominal pain in the puerperium which is associated with uterine contraction and its involution. The post Cesarean section patient poses an additional challenge because despite having been fasted, put on antibiotics and NSAIDs all of which may trigger, propagate, mask or even cause peptic ulceration, pain, nausea and vomiting in these patients is often presumptively associated with the post-operative state and treated empirically with analgesics, antacids and antiemetics. The enlarged uterus and post-operative pain mar the presentation.

Post-partum patients presenting with abdominal pain, nausea and projectile vomiting need to be evaluated for PUD and its complications. Laboratory tests are nonspecific but may act as a pointer for further work-up. These include a full blood count and serum amylase. Leucocytosis and an elevated serum amylase are likely associated with perforated peptic ulcer (7). The post-operative patient, parturient, and the patient in the immediate puerperium all have an elevated white cell count making interpretation of results difficult. Oesophago- gastro-duodenoscopy (OGD) may safely be done in pregnant and lactating women, however, this should only be done when there is a strong indication, and should be done by a specialist (8). OGD was not applicable in this case as the patient had signs of peritonitis and needed emergency surgery. An erect chest X-ray is the recommended first line diagnostic work up for suspected perforated PUD. A finding of free air under the diaphragm is suggestive of a perforated viscus (6) and calls for immediate exploration however this was not detected in this case.

Once a diagnosis of perforated peptic ulcer has been made, patient management entails initial resuscitation with intravenous fluids, replacing blood if patient is haemorrhaging, administering parenteral antibiotics and keeping the patient nil per oral (NPO) and on nasogastric tube(NGT)

decompression and on parenteral antacids. In our case the patient was haemodynamically unstable in shock. Intravenous fluids, antibiotics, insertion of NGT, urinary catheter and keeping patient NPO was instituted as emergency measures. The surgical management of the perforated DU in pregnancy and in the post-partum period is not any different from that in the non-pregnant state. Medical therapy must also take into account the safety of the medication to mother and her baby. Primary closure with placement of an omental patch is recommended for perforations greater than 5 millimetres but less than 2 centimetres wide (7). This is the technique utilised in this case. Parenteral antibiotics should be continued for about a week after surgery.

The diagnostic challenge, coupled with the need for urgent surgery was based on the clinical presentation. It also necessitated a multidisciplinary team to be involved in the management and long term follow –up. The team should consist of the Obstetrician, general surgeon and a gastroenterologist. In our case, the surgeon was involved from suspicion of acute peritonitis with the possibility of forgotten abdominal pack or intestinal obstruction following the Caesarean section.

In conclusion, perforated peptic ulcer is a rarely encountered diagnosis in the puerperium and can lead to rapid maternal deterioration and death when diagnosed late or missed. The clinician needs to have a high index of suspicion to rule out this diagnosis in women presenting with nausea, projectile vomiting and abdominal pain, more so in the post-operative patient who has had the additional risks of peptic ulceration due to use of NSAIDs and surgery-related stress. Once perforated peptic ulcer is suspected, multidisciplinary approach is required to expedite timely diagnosis and appropriate treatment for the best outcomes for the patient.

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