BINGHAM JOURNAL OF MEDICINE

Severe Acute Maternal Morbidity Associated with Septic Abortion: A Case Report

Morbidité Maternelle Aiguë Sévère Associée à l'Avortement Septique: Rapport de cas

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ABSTRACT

BACKGROUND: **Massive upper gastrointestinal haemorrhage (UGIH) is a common surgical emergency. It is however uncommon for it to present as the only site of bleeding in a patient with septic abortion.**

OBJECTIVE: **To report a case of the occurrence of non-steroidal anti-inflammatory drug (NSAID)-induced gastropathy as a cause of massive UGIH in a patient with septic abortion.**

CASE REPORT: **A 19-year-old woman presented with fever and bleeding *per vaginam* and haematemesis about two weeks after an unsafe abortion. Examination revealed a young woman in shock. She was fully investigated and successfully resuscitated**

RESULTS: **She had intractable haematemesis which was initially suspected to be due to disseminated intravascular coagulopathy. She was rhesus negative. The haematemesis was subsequently found at endoscopy to be due to acute upper gastrointestinal ulceration following non-steroidal anti-inflammatory drug abuse. She had, among other treatments, 13 units of rhesus negative blood transfused, intensive care and triple therapy for the UGIH, anti-D immunoglobulin administration and manual vacuum aspiration for retained products of conception. She recovered fully.**

CONCLUSION: **Severe acute maternal morbidity can be due to several causes. A high index of suspicion for unusual causes such as non-steroidal anti-inflammatory induced gastropathy and prompt appropriate multidisciplinary approach to management are key to a favourable outcome. BJM 2017; 1(1): 23–25.**

Keywords: Gastrointestinal haemorrhage, NSAID-induced gastropathy, septic abortion, maternal near-miss, severe acute maternal morbidity

ABSTRAIT

CONTEXTE: hémorragie digestive haute Massive (UGIH) est une urgence chirurgicale commune. Il est cependant rare, pour présenter, comme le seul site de saignement chez un patient présentant un avortement septique.

OBJECTIF: Rapporter un cas de l'apparition d'un médicament anti-inflammatoire non-stéroïdien (AINS) gastropathie induite comme une cause de UGIH massives chez les patients présentant un avortement septique.

RAPPORT DE CAS: A 19 ans, la femme a présenté de la fièvre et des saignements PV et hématémèse environ deux semaines après l'avortement à risque. L'examen a révélé une jeune femme instinct. Elle a été entièrement étudiée et réanimée avec succès

RÉSULTATS: Elle était rhésus négatif, elle avait hématémèse intraitable qui a été initialement soupçonné d'être due à une coagulopathie intravasculaire disséminée. Le hématémèse a découvert par la suite à l'endoscopie soit due à l'ulcération gastro-intestinale supérieure aiguë suite à l'abus de drogues non-stéroïdiens anti-inflammatoire ; une histoire qui a été difficile d'obtenir d'elle. Elle avait, entre autres traitements, treize unités de sang rhésus négatif transfusés, les soins intensifs et la triple thérapie pour le UGIH, anti-D administration d'immunoglobuline et l'aspiration manuelle pour les produits de conception retenus. Elle est complètement rétablie.

CONCLUSION : la morbidité maternelle aiguë sévère peut être fait à plusieurs causes. Un indice élevé de suspect pour des causes inhabituelles telles que la gastropathie induite anti-inflammatoire non stéroïdien dans les cas et l'approche multidisciplinaire appropriée invite à la gestion sont essentielles à une issue favorable. **BJM 2017; 1(1): 23–25.**

Mots-clés: Hémorragie massive gastro-intestinale, gastropathie induite par les AINS, l'avortement septique, maternelle quasi-accidents, graves de morbidité maternelle aiguë

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Abbreviations: DIC, Disseminated intravascular coagulation; **MVA,** Manual vacuum aspiration; **NSAIDs,** Nonsteriodal anti-inflammatory drugs; **PCV,** Packed cell volume; **SAMM,** maternal near-miss or severe acute maternal morbidity; **UGIH,** Upper gastrointestinal haemorrhage.

INTRODUCTION

In Nigeria, an estimated 20–40% of maternal deaths result from abortion complications[1] with much more suffering disability. Massive upper gastrointestinal hemorrhage (UGIH) which be defined as bleeding from the upper gastrointestinal tract is associated with haemodynamic instability, acute anemia and/or the need for blood transfusion of at least four units of blood.[2]

Non-steroidal anti-inflammatory drugs (NSAIDs) are the most highly prescribed drugs for pain, inflammation and fever but they are associated with severe side effects including gastro-intestinal injury and peptic ulceration which can lead to gastrointestinal haemorrhage.[4,5]

A maternal near-miss or severe acute maternal morbidity (SAMM) can be defined as a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy. Criteria for identifying near misses could be clinical, intervention-based, or organ-system dysfunction-based criteria.[3]

Massive UGIH may present in relation to septic abortion but usually as a component of disseminated intra-vascular coagulopathy (DIC).[3] We did not find any report on massive upper gastrointestinal hemorrhage in patients with septic abortion that were not due to DIC.

We report a rare presentation of massive upper GI bleeding from NSAID-induced gastroduodenal ulcerations in a teenager with septic abortion who was a maternal near-miss.

History

The patient was a 19-year old para 0+1 who presented to us with a 13-day history of unsafe induced abortion at 10 weeks of gestation, a 7-day history of fever, bleeding *per vaginam* and an 8-hour history of haematemesis. Abortion was carried out using manual vacuum aspiration (MVA) at the home of the practitioner. Pain subsided same day with use of some tablets but spotting continued. Six days post abortion, bleeding *per vaginam* worsened necessitating use of 24–30 pad strips per day as against her premorbid use of two-three pad strips during menses. She had a repeat MVA four days prior to presentation at the same place and by the same person. Bleeding subsided but she developed copious foul smelling vaginal discharge, low back pain, fever, and coffee ground vomitus. Eight hours prior to presentation, she had four episodes of frank haematemesis of about 500ml per episode. She then developed severe body weakness and dizziness after the fourth episode. Other relevant aspects of the history were that she was blood group B-negative, had never used contraceptives, was not aware of pap smear, and had one sexual partner who broke up with her on discovering the index pregnancy.

Physical Examination

On examination at presentation, she was lethargic, severely pale, febrile (axillary temperature was 38.2^0C), with cold clammy extremities, sweating, tachydyspnoeic with impalpable radial pulses. The carotid pulse was 136 beats per minute and the blood pressure was 80/50 mmHg. The saturated partial pressure of oxygen was 62%. She had two bouts of frank haematochezia of about 150 ml/bout while being examined. There was marked suprapubic tenderness but no ascites. Her perineum was soiled with foul smelling purulent discharge seen trickling from the cervical os, No product of conception was seen. The anal area was bloodstained, and the rectum was roomy and empty.

An initial impression of septic abortion with massive upper gastrointestinal bleeding in a rhesus negative single student secondary to DIC was made.

Management

She was resuscitated including intravenous fluids, passage of a nasogastric tube and urethral catheter. Intravenous ceftriaxone and metronidazole were commenced as well as.

Her admitting packed cell volume (PCV) was 16% . Two units of fresh B negative blood were transfused three hours after presentation. The clotting profile showed no laboratory evidence of DIC. Indirect Coombs test was negative. Urgent ultrasound scan (USS) done showed retained products of conception. Full Blood count showed a leucocytosis of $22x10^9$/L with neutrophilia of 98%, toxic granulations and left shift. The platelet count was normal.

Further Management Challenges

Haematemesis and haematochezia continued with the average blood loss of 2–3l/day and syncopal attacks after bouts. Transfusion of rhesus negative blood continued with intermittent calcium gluconate administration after every four units. Additional history revealed she was taking four tablets of ibuprofen four to six times daily in addition to ampicillin capsules in the preceding four days. A diagnosis of NSAID-induced gastro-pathy was then entertained.

The gastroenterologists and the general surgeons were invited. She was placed on nil per oral, and was commenced on intravenous ranitidine. She was slated for oesophago-gastroduodenoscopy but her PCV had dropped to 13% after six units of blood. There was difficulty procuring Rhesus negative blood for transfusion and a letter was written to the National Blood Transfusion Service at Kaduna for assistance with prompt response. Endoscopy done on the fourth day of admission revealed a huge ulcer in the first part of the duodenum that measured about 2cm x 2cm, with a visible vessel and thick adherent blood clot on the ulcer. There were also multiple areas of gastric erosion in the body and antral parts of the stomach.

On the fifth day of admission, she vomited two litres of fresh blood with associated clots and she developed altered sensorium, with systolic blood pressure of 60 mmHg, un-recordable diastolic blood pressure, and saturated partial pressure of oxygen of 35%–60% even after four hours of resuscitation. Anesthetists reviewed for intensive care and she was given intravenous ephedrine, oxygen therapy, intravenous fluids and blood transfusion.

After two days of intensive care, she was improving, UGIH was subsiding, and her vital signs were normalizing. She was commenced on clarithromycin, rabeprazole, and amoxicillin and she

made some clinical improvement. She developed hypokalaemia of 2.5 mmol/L, which was corrected. She had a total of 13 units of blood transfused with post transfusion PCV of 28%.

Repeat USS showed retained products of conception with destructive endometrial changes. She had cervical stenosis, which was dilated and manual vacuum aspiration was done. Anti-D immunoglobulin was administered. After 12 days on admission, she developed features of malaria fever, which was confirmed on blood film and treated.

She thereafter maintained steady progress. Both the patient and her parents were adequately counseled. She was referred to the reproductive health clinic for post abortion care including papanicolaou smear. She was discharged after 13 days on admission.

DISCUSSION

Massive UGIH can occur with septic abortion as well as in patients with stress-induced gastrointestinal ulceration, ingestion of caustic substances, NSAIDs, in intensive care unit patients and patients with severe burns. Reported cases of massive UGIH in septic abortion are due to DIC.[3] Other authors have reported melena.[7] We didn't find any publication on massive UGIH in septic abortion attributable to concurrent use of NSAID and subsequent development of NSAID induced gastropathy. The closest case was that following soap-induced abortion.[8] A high index of suspicion may help in the diagnosis, as most patients who undergo induced abortion will be on analgesics mostly NSAIDs.

The cause of her massive UGIH was due to NSAID induced gastroduodenal ulceration, which was confirmed at a diagnostic endoscopy. Although different endoscopic therapies are available to secure haemostasis including injection and thermal therapies, at the time the patient presented to our facility, none of these techniques was operational though a surgical consult was obtained in the event of failure of medical management. The decision to give triple therapy to the patient for *Helicobacter pylori* eradication without a urea breath test was based on the fact that the patient was weak at presentation and we would not have been able to wait for 10 days to wean her off the previous antibiotics she was on and also for her to have an overnight fasting and breathing into the breath card would not be possible

Severe Acute Maternal Morbidity

An analysis of cases of SAMM or near-misses has the potential to highlight the deficiencies (as well as the positive elements) in the provision of obstetric services in any health system. The higher frequency of near misses compared to maternal deaths allows a more rapid, comprehensive and statistically reliable quantitative analyses that are valuable to clinical audit. Also, compared to maternal deaths, survivors could tell their own stories. This patient was one out of the numerous women who suffered SAMM. For every maternal death, at least 30 women suffer SAMM.[5]

The diagnosis of SAMM in our patient was based on clinical, intervention-based and organ-system dysfunction-based criteria . The clinical criterion she had was in the form of severe haemorrhage with blood loss of over 2.4L. The intervention-based criteria were transfusion of over 2L of blood and also admission into intensive care unit. The organ-system dysfunction-based criteria were a systolic blood pressure <90mmHg lasting more than 60 minutes despite aggressive fluid replacement of greater than two litres and oxygen saturation less than 90% for greater than 60 minutes. Prompt multidisciplinary approach was paramount to successful treatment.

CONCLUSION

Unsafe induced abortions are common in Nigeria despite restrictive abortion laws. Massive UGIH can complicate septic abortion. A high index of suspicion is needed to ascertain if this is due to NSAID-induced gastropathy and not the commoner presentation of DIC. A past history of use of NSAID and other related drugs should be sought in every patient with upper GI haemorrhage irrespective of the clinical presentation.

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