International Journal of Innovative Research in Medical Science (IJIRMS)
Volume 06, Issue 01, January 2021,
https://doi.org/10.23958/ijirms/vol06-i01/1028

Case Report

Giant Encapsulated Anterior Abdominal Wall Haematoma Complicating Mesh Incisional Hernia Repair: Challenges of Management in a High-Risk Term Pregnancy in a Low Resource Setting

Anwar Sadat Seidu [*1], David P. Suoseg [3], Bernard N. Maanikuu [1], Musah Yakubu [1], Imoro Osman [1], Emmanuel A.N. Azure [1], Haruna Danamiji Osman [1], John F. Busuuri [1], Abdul-Latif Alhassan[1], Abdul Aziz Ewura [1], Gerald Batariwah [1], Munkaila Adam [3], Mohammed I.S. Bukari [1], Abdul-Jalilu Muntaka Mohammed [1], Der EM [2]

[1]Department of Surgery, Tamale Teaching Hospital, Box TL 16, Tamale, Ghana
[2]Department of Pathology; School of Medicine and Health Sciences, University for Development Studies, Box TL 1350, Tamale, Ghana
[3]Department of Obstetrics and Gynecology, Tamale Teaching Hospital, Box TL 16, Tamale, Ghana

Corresponding author: Anwar Sadat Seidu; *anwarseidu@gmail.com*

Received 15 December 2020; Accepted 02 January 2021; Published 08 January 2021

Abstract

Giant encapsulated haematoma of the anterior abdominal wall is an unusual complication of mesh incisional hernia repair. The commonest symptoms are swelling and pain. It can be diagnosed with ultrasonography and Computed Tomography (CT) scan. The objective of this case report is to illustrate the challenges of management of a complex pathology in a high-risk term pregnancy.

In this case report, a 28-year-old morbidly obese multiparous woman with two previous ventral wall hernia repairs and two previous caesarian sections, presented at term to the prenatal clinic with protruding anterior abdominal mass. Initial preoperative diagnosis aided by ultrasonography was a herniated term gestation through an incisional hernia. Intraoperatively, the surgical team was faced with the challenge of managing a longstanding giant organized haematoma of the anterior abdominal wall and the anticipation and prevention of obstetric complications associated with two previous caesarian sections and a big baby. This report illustrates that good clinical assessment combined with sonographic assessment of complex cases by an experienced radiologist is crucial to avoid missed diagnosis. A multidisciplinary team management was essential for a successful outcome.

Keywords: ***organised haematoma, incisional hernia, herniated pregnancy, high-risk***

Introduction

Incisional hernia is the abnormal protrusion of a viscus through a weak previous surgical scar. The incidence of incisional hernia is about 11.6% in the general population [1]. Common risk factors include obesity, chronic cough and constipation, multiparity, multiple abdominal surgeries and postoperative wound infection [1,2]. The predominant symptoms are abdominal swelling and pain [1-7]. The treatment of choice is mesh repair (open and laparoscopic) [8,9]. Mesh repair has a lower recurrence rate but a higher complication rate compared to suture repair [8]. Wound infection and seroma formation are documented complications following mesh incisional hernia repair [2,6].

Herniation of a gravid uterus through an incisional hernia is an unusual clinical occurrence [10-12]. It is associated with complications such as intrauterine growth restriction (IUGR), intrauterine death, preterm labour and uterine rupture [10,13].

We report a rare case of giant encapsulated haematoma, an unusual complication following mesh incisional hernia repair and illustrated the challenges involved in the diagnostic process in a low resource setting.

Case Summary

A 28-year-old female first presented to Tamale Teaching Hospital two years ago as a referral case from a primary care facility. She

was referred on account of obstructed incisional hernia in pregnancy. Prior to this presentation, she had had three previous abdominal surgeries: two ventral wall hernia repairs and one caesarian section which was on account of prolonged labour. An open on-lay mesh repair was performed, and she was discharged on postoperative day nine without complications. She noticed a slowly increasing swelling on the abdominal wall three months after the delivery of her second child (also via caesarian section). The swelling continued to increase in size over a two-year period and she got pregnant again within the period. She had her prenatal care at a primary care facility and was subsequently referred to the prenatal clinic of the Tamale Teaching Hospital for specialist care on account of two previous caesarean sections. In this current presentation at 37 weeks 5days gestation, she was gravida 4 para 2 alive and 1 spontaneous abortion (G^4 P^{2A+1SA}).

On clinical assessment she was morbidly obese (preconception BMI=58.5 Kg/m^2), had an anterior abdominal wall mass which the clinician thought was a herniated term pregnancy because of her history of recurrent incisional hernias. There was an extended upper midline surgical scar and the symphysio-fundal height (SFH) was 55cm. This is shown in **Figure 1**. There was no visible or palpable cough impulse. The mass was firm, smooth, non-tender and had well defined edges. They could get above the mass but not below it. The edges of the mass appeared as though the edges of the ventral wall defect. The foetal lie and presentation could be assessed but a fetal heart rate of 142bpm was noted. Ultrasonography also reported a viable singleton pregnancy with an estimated fetal weight of 4.2kg (big baby). A suspicion of herniated term pregnancy through an incisional hernia was confirmed by ultrasonography. The surgical team was invited to assist in management of the case.

The patient was prepared for elective caesarean section and on-lay mesh repair of the incisional hernia. Surgery was performed under general anaesthesia and prophylactic antibiotics through a standard midline incision. Intraoperatively, patient was found to have a giant encapsulated firm mass (50cm x 30cm) on the anterior abdominal wall with its long axis in the midline as shown in **Figure 2A**. This mass was initially thought to be the gravid uterus, however, an incision in the lower segment of the mass produced a gush of brownish fluid and a pink doughy substance (about 9 liters) (**Figure 3A)**. Further exploration revealed the uterus to be intraperitoneal (**Figure 2B)**. An incision on the lower uterine segment was made a live male baby delivered. The uterus was delivered into the wound, the uterine incision closed in two layers and a B-Lynch was performed.

The encapsulated mass was excised off the anterior abdominal wall. A reconstruction of the abdominal wall was performed. An on-lay polypropylene mesh was placed over it and secured with nylon 3/0 suture as shown in **Figure 2C**. Drains were placed through separate wounds and secured with nylon 2/0. She had an uneventful recovery. Drains were removed on postoperative day 8 and a corset applied. The excised specimen was sent for histopathology. She developed a seroma which was aspirated intermittently over 12 weeks.

Histopathology Report

Macroscopy

Received a cystic mass that measured 18 cm in its widest dimension. The cut surface revealed a unilocular cyst filled with dark brown semi-solid material. The wall was fibrous and thickened. No calcifications were seen (**Figure 3A**).

Microscopy

Sections of representative portions from the anterior abdominal wall mass showed largely old organised haematoma surrounded by fibrous tissue (**Figure 3B**). There were large areas of granulomatous reactions to old sutures (foreign body) (**Figure 3C**). No malignancy was seen.

Diagnosis

Anterior abdominal mass (Excision): Organised haematoma

Figure 1: Giant anterior abdominal wall mass in a term gestation

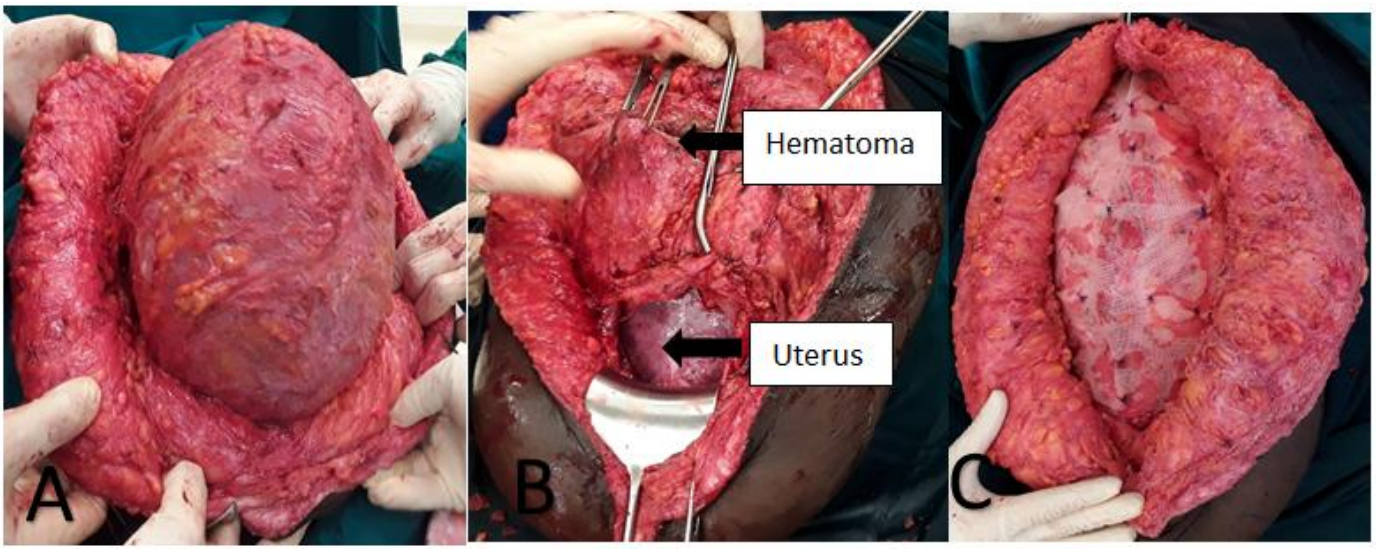

Figure 2: A) Giant anterior wall mass with long axis in midline, B) Uterus (inferior) and mass (superior) see arrows, C) On-lay mesh repair

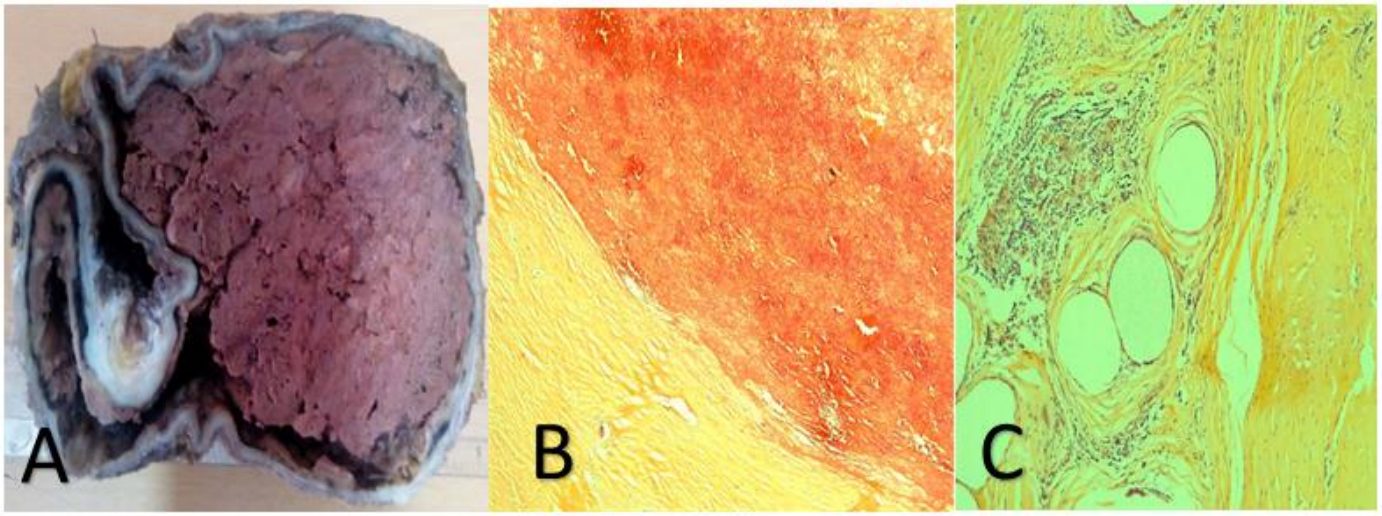

Figure 3: A) The cut surface of the anterior abdominal mass showing a unilocular cyst filled with pink doughy content, B) x10: H&E section from the cystic anterior abdominal wall showing an organised haematoma surrounded by fibrous tissue, C) x10: H&E section from the wall of the cystic mass showing chronic granulomatous reaction to old surgical materials.

Discussion

Herniation of gravid uterus through an incisional hernia is a rare occurrence [10-12]. It is associated with obstetric complications such as strangulation, IUGR, preterm labour and uterine rupture [10,13]. Haematoma is an uncommon complication following mesh incisional hernia repair, more so a giant encapsulated hematoma. The commonest complications documented in literature are wound infection and seroma formation [2,6].

Incisional hernia is twice as common in females than males [1,2]. Obesity, multiparity, multiple abdominal surgeries, chronic cough and constipation are some of the known risk factors for incisional hernia [1,2]. In this case, the patient is a female who was morbidly obese (BMI= 58.5 Kg/m^2), multiparous and had three previous ventral hernia repairs. The multiple pregnancies and obesity increased her intraabdominal pressure, and the multiple abdominal surgeries and multiparity weakened the anterior abdominal wall predisposing her to recurrent ventral wall hernias.

Findings from clinical examination combined with abdominopelvic ultrasonography resulted in a preoperative diagnosis of herniated term pregnancy through an incisional hernia. However, intraoperatively it was noticed that patient had a longstanding organized haematoma of the anterior abdominal wall which was missed in the diagnostic evaluation. In low and middle resource settings such as in the current case, ultrasonography is the only radiological tool available to clinicians. It is a useful diagnostic tool in experienced hands, but it is worth noting that ultrasonography is operator dependent. An appropriate preoperative diagnosis would have aided proper planning by the surgical team.

The surgical and obstetric team was faced with a challenge of managing a high-risk term pregnancy with a longstanding complex surgical complication. The burden of surgically managing a longstanding organised abdominal wall haematoma coupled with the anticipation and prevention postoperative obstetric complications was a challenging situation. A multidisciplinary team management of this complex case was crucial for successful management outcome in this situation.

Conclusion

This report illustrates that good clinical assessment is required in multidisciplinary cases. Sonographic evaluation of complex pathologies should be done by an experienced radiologist so as to avoid missed diagnosis. Multidisciplinary team work was essential for the satisfactory management of this patient.

Consent

Consent was sought from the patient for the publication of this manuscript and pictures.

Conflict of interest

None declared

Funding Statement

No funding

Authors' contribution

ASS, BNM and DPS conceived the idea. ASS, BNM, EANA wrote case summary, all authors drafted the manuscript. ASS, DPS, MY and AM performed surgery. BNM provided medical photography. EMD provided histopathologic report and images and supervised the manuscript. All authors reviewed the final manuscript for academic readership.

References

[1] Mardi DN, Besra DRC, Baxla DRG, Munda DVS. Study of The Causes And Incidence of Incisional Hernia In Midline Abdominal Incision,Its Management In Tertiary Care Centre of Jharkhand.:8.

[2] Bhamre SD, Pingale ND. A Clinical Study of Incisional Hernia. MVP J Med Sci. 2016 Feb 29;3(1):1–6.

[3] Salgaonkar HP, Gouda B, Behera RR, Katara A, Bhandarkar D. ENCAPSULATED SEROMA FOLLOWING INCISIONAL HERNIA REPAIR. 1(1):5.

[4] Mohamed M, Elmoghrabi A, Shepard WR, McCann M. Delayed onset seroma formation 'opting out' at 5 years after ventral incisional hernia repair. Case Rep. 2016 Apr 19;2016:bcr2016215034.

[5] G S-T, T H, C V, T O. [Late complication after mesh repair of incisional hernias: pseudocyst formation]. Magy Sebeszet. 2007 Dec 1;60(6):293–6.

[6] Jurat danika. Management of a nine litre abdominal wall seroma post ventral hernia repairs: A case report - ScienceDirect [Internet]. [cited 2020 Sep 19]. Available from: https://www.sciencedirect.com/science/article/pii/S2210261220304375

[7] Mayagoitia JC, Almaraz A, Díaz C. Two cases of cystic seroma following mesh incisional hernia repair. Hernia. 2006 Mar 1;10(1):83–6.

[8] Thomas L. Schwenk MD. Mesh vs. Suture Closure of Incisional Hernias. NEJM J Watch [Internet]. 2016 Oct 20 [cited 2020 Sep 26];2016. Available from: https://www.jwatch.org/NA42615/2016/10/20/mesh-vs-suture-closure-incisional-hernias

[9] Dietz U, Menzel S, Lock J, Wiegering A. The Treatment of Incisional Hernia. Dtsch Ärztebl Int. 2018 Jan;115(3):31–7.

[10] Rao RS, Shankaregowda HS. Case Report - A case of herniated gravid uterus through a laparotomy scar. 2006 Dec 31 [cited 2020 Sep 17]; Available from: https://tspace.library.utoronto.ca/handle/1807/7673

[11] Sahu L, Bupathy A. Evisceration of pregnant uterus through the incisional hernia site. J Obstet Gynaecol Res. 2006;32(3):338–40.

[12] Uchenna EG, Chukwuneme OB, Ejike ES, Mbanefo OP, Benjamin ET. Herniated near-term pregnancy through an incisional hernia treated with polypropylene mesh: A case report. Niger Med J J Niger Med Assoc. 2014 Jun;55(3):271.

[13] Dare FO, Makinde OO, Lawal OO. Gravid uterus in an anterior abdominal wall hernia of a Nigerian woman. Int J Gynecol Obstet. 1990;32(4):377–9.