International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2024: 7.101

Case Report of Ultrasonographically Diagnosed Cases of Abdominal Ectopic Pregnancy

Dr Vidisha Malpani[1], Dr. Ritesh Dhuria[2]

[1]Assistant Professor JLN Medical College Ajmer
[2]Junior Resident JLN Medical College Ajmer

Abstract: ***Two cases of abdominal pregnancy, one in a in a 29-year-old female gravida 4, para 0 is presented and another in a 19-year-old Gravida 1 para 0 is presented. Ultrasonography revealed a viable abdominal pregnancy at 20 weeks gestational age in the first patient and 25 weeks in the second pregnancy. Surgical intervention became necessary in both of the patients following Ultrasound detection of foetal demise. The maternal outcome was favourable in the first patient however the second patient presented with shock and Hemoperitoneum and had unfavourable outcome. These cases are presented with review of Literature highlighting the need of high index of suspicion with the problems associated with diagnosis and management of abdominal pregnancy.***

Keywords: Intra-Abdominal pregnancy, Ectopic Pregnancy, Ultrasound, Emergency Ultrasound, IUD, Obstetrics and gynecology, Case Report

1. Introduction

Normally the fertilized Ovum Implants in the Uterine Cavity. When Implantation occurs anywhere else it is medically referred as Ectopic pregnancy. It is however very rarely situated in the abdominal cavity with abdominal pregnancies representing 1% of all Ectopic.

Abdominal pregnancy can further be classified as being primary or secondary. Primary abdominal pregnancy which is extremely rare occurs when a fertilized ovum implants itself initially on some abdominal organ. Most cases of abdominal pregnancy are secondary in that the ovum first implants in the fallopian tube, ovary or uterus and subsequently escapes through a rupture into the peritoneal cavity.[1]

We will present 2 cases of patients who have abdominal pregnancies in haemorrhagic forms and were treated by laparotomy in emergency obstetrical department in Rajkiya Mahila Chikitsalya Hospital Ajmer.

Limitations

Due to the diagnosis being extremely rare the study's extremely small sample size and single center design may limit the generalizability of the study.

Future studies with larger sample sizes over a longer time span and diverse geographical representation are recommended.

2. Case Report

We report two cases of abdominal pregnancies whose diagnosis was made by ultra-sonography and treated by laparotomy in emergency obstetrical department of Rajkiya Mahila chikitsalya Hospital Lohagal affiliated with JLN Hospital Ajmer

Case 1

Patient 1 a 29-year-old gravida 4, para 0^{+3} presented to the accident and emergency department with a 4-month history of progressive abdominal discomfort, persistent vomiting, abdominal distension and amenorrhea. The LMP was not known with patient claimed 3 months of Amenorrhea. She was then referred to Zanana/ Rajkiya Mahila Chikitsalya Hospital Ajmer where she went further evaluation. She had taken some treatment for pain prior to presentation. On examination she was found to be febrile, pale and hypotensive (BP-90/60mmHg). Serum Urea and Creatinine levels were within normal limits. Her urine contained blood elements and protein. Her blood group was A^{+}. Ultrasonography was requested as part of her initial assessment.

On Trans-abdominal USG an IUD foetus was found in the peritoneal cavity close to the maternal anterior abdominal wall.

Image 1

Image 2

Image 1 & 2: IUD Foetus Floating in Peritoneal Cavity.

The parameters on biometry gave an estimated foetal gestational age at 25 weeks. Other findings include a right-sided suprapubic mass likely ectopic placenta, a mildly bulky Uterus with empty Endometrial Cavity separate from the placenta and foetus.

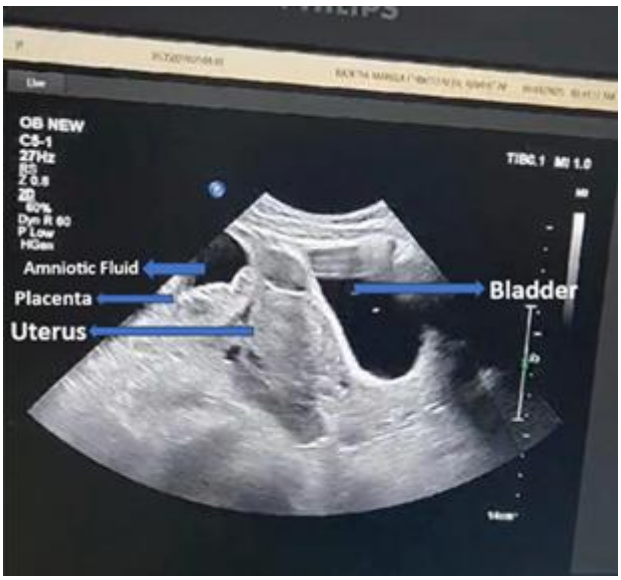

Image 3: Bulky Uterus Separately Visualised From products of Conception

USG showed normal liver size with unaltered echo-pattern and normal scans for other organs including Spleen and Kidneys. The patient was counselled, transfused with screened whole blood and further stabilized and underwent laparotomy with removal of products of conception where a rudimentary horn of uterus was found making it a likely case of secondary ectopic pregnancy with likely implantation in the rudimentary horn which subsequently escaped to the peritoneum.

A sub-umbilical incision was made. Placenta was found attached outside the uterus at the Rudimentary horn and received few blood vessels from branches of the right internal iliac.

The umbilical cord was traced to the foetus in the RIF. The placenta was completely removed from its ectopic location with its size corresponding to the pre-operative ultrasound. Amniotic sac was unruptured as shown in the Image below. The foetus was delivered from the right iliac fossa and appeared Grossly normal.

The Uterus and right fallopian tube were found to be intact and uterus showed right rudimentary horn and the placenta was noted to be attached exteriorly to this rudimentary horn. These findings lead us to believe that this was a case of secondary abdominal pregnancy.

Image 4: IUD Foetus covered with amniotic sac removed from peritoneal cavity

Image 5: Uterus with rudimentary Horn and Bowel loops released from Placental attachments.

She was regularly monitored post operatively using Ultrasonography.

Blood loss was estimated to be 400 mls. The abdomen was closed in layers leading to uneventful recovery. The patient was discharged Five days later and was reviewed after 2 weeks with no fresh complaints.

Case 2

A 19-year-old patient presented to the Emergency Department JLN Hospital Ajmer. The patient presented with severe pain abdomen, shortness of breath, vomiting, with altered consciousness and 4 months amenorrhea with no prior investigations and was found to be Hypotensive, anaemic with deranged vitals on examination. She was given Emergency treatment and was then referred to Rajkiya Mahila Chikitsalya Ajmer.

There the patient was examined further her Abdomen was visibly distended and Emergency Ultrasound was requested which revealed Gaseous Abdomen with Placenta-like structure localised at anterior abdominal wall on right side however any Foetus was not visualised due to excessive Gas

in the abdominal cavity. Liver parenchyma was visualised pushed upwards. Rest of the structures could not be evaluated.

Image 6: Placenta like Structure visualised with Excessive Gas shadows just inferior to placental tissue

The patient was taken for emergency laparotomy which revealed dead foetus of size corresponding to 2nd trimester pregnancy approx. with ruddy brown umbilical cord, maternal surface of placenta showing multiple blood clots, Foetal skin showing significant peeling slippage and blistering, with foetal hydrops and intrafetal abdominal gas, with overlapping of skull bones all findings s/o post-mortem changes of IUFD.

Image 7: Large IUD Fetus with Post Morten IUFD changes as described above.

Heavy abdominal bleeding caused by placental abruption soon after removal of the foetus led to further deterioration of the patient which led to maternal demise during post op care.

3. Review of Literature

Okafor I *et al* A high index of suspicion is needed to make a first-time diagnosis of abdominal pregnancy. Clinical presentation can be variable with abdominal pain occurring at 16-17 weeks gestation. The diagnosis of early abdominal pregnancy is by β-hCG estimation and Ultrasonography. In the case of our patient, Ultrasonography was the single stand-alone test used to diagnose abdominal pregnancy.[2]

Willibald Zeck *et al* Abdominal pregnancy is rather difficult to detect in a low-resource setting of a developing country. Persistent abdominal pain and tenderness, as well as foetal movements in the upper abdomen associated with abnormal foetal lie, may lead to its diagnosis.[3]

Allibone GW *et al* described major criteria for sonographic diagnosis of intra-abdominal pregnancy. These include:

1) Demonstration of foetus in a gestational sac outside the uterus, or the depiction of an abdominal or pelvic mass identifiable as the uterus separate from the foetus;
2) Failure to see a uterine wall between the foetus and the urinary bladder;
3) Recognition of a close approximation of the foetus to the maternal abdominal wall; and
4) Localization of the placenta outside the confines of the uterine cavity. All of these features were recognized in our patients.[4]

Magnetic resonance imaging (MRI T2-WI), or colour Doppler Ultrasound could be used to localize the placenta.[5]

More recent literature listed other additional criteria such as oligohydramnios, abnormal foetal lie, placenta previa appearance and maternal bowel gas impeding foetal visualization.[10]

The perinatal mortality varies from 85 to 95%[6], and the rate of foetal deformation is reported to range from 20 to 90%[7].

Where resources abound placental localization by Magnetic resonance imaging offers the best method of diagnosis. Evaluation of gross foetal morphology can be further assisted by use of 3-D Ultrasonography where this is available. The outlook for the foetus in abdominal pregnancy is poor.[8]

Medical treatments are offered mainly for abdominal pregnancies where the location or surgical treatment is potentially associated with an increased risk of haemorrhage. These sites are essentially represented by the hepatic and splenic location.[9]

Abdominal pregnancy is a rare type of ectopic pregnancies that can be potentially serious due to the haemorrhagic complications. The early diagnosis offers a better prognosis. However, clinical polymorphism makes early diagnosis difficult.[11]

4. Discussion

Epidemiology

They are thought to represent ~1% of all ectopic pregnancies 6 with an estimated incidence of 1:1000-10,000 births.

Pathology

It is often thought that they most frequently result from a tubal rupture with subsequent reimplantation of the conceptus onto bowel, omentum, or mesentery (in very rare situations primary abdominal ectopic may also occur). Uncommon cases when it develops as a result of a scar rupture have also been reported.

It typically develops around the ligaments of the ovary, on the uterus, or in the pouch of Douglas, although it can implant anywhere within the abdominal cavity. It can then obtain blood supply from the omentum and abdominal organs. At times these pregnancies migrate out of the pelvis and are seen in the upper abdomen. The placental attachment can also be at unusual sites including the anterior abdominal wall.[12]

Treatment and prognosis

Abdominal pregnancies are associated to a high-risk of maternal morbidity and mortality. The treatment of early form is based on surgery; And despite the advent of laparoscopic surgery, laparotomy retains its indications including forms with haemorrhagic shock.[11]

It is a serious and potentially life-threatening condition. Maternal mortality associated with intra-abdominal pregnancy is estimated at 7.7 times that of other locations of ectopic pregnancy 6, with a mortality rate of ~ 5- 8%.

Treatment is often by means of placental embolization followed by laparotomy or laparoscopy. While an abdominal pregnancy can result in a life-threatening emergency, especially when diagnosed late in gestation, it can also result in a live birth by means of a laparotomy.[11]

Complications

Intra-abdominal haemorrhage with massive hemoperitoneum can occur in some cases.

5. Summary and Conclusion

Managing abdominal pregnancy is a challenging and delicate process that requires careful consideration of both maternal and fetal well-being. The approach largely depends on the stage of pregnancy at diagnosis and the overall clinical situation.

Early Management (Before 24 Weeks)
If an abdominal pregnancy is identified before 24 weeks, immediate surgical intervention to terminate the pregnancy is typically recommended. This is because continuing the pregnancy at this stage poses significant risks to the mother's health, including life-threatening complications such as hemorrhage or organ damage.

Later Management (After 24 Weeks)
For pregnancies diagnosed after 24 weeks, the decision becomes more complex. While some cases may benefit from conservative management to allow the fetus to reach viability, this approach comes with its own risks. Each case must be evaluated individually, considering factors like maternal stability, fetal condition, and available medical resources. The goal is always to minimize harm while maximizing the chances of a positive outcome.

Conservative Management: A Careful Balancing Act
When a conservative approach is chosen, the patient usually requires hospitalization for close monitoring. This includes regular ultrasounds to assess fetal development and placental health, as well as access to emergency surgical care if complications arise. While this strategy may allow time for the fetus to grow, it demands constant vigilance due to the potential for sudden complications.

The Placenta: A Key Challenge
One of the most difficult aspects of managing abdominal pregnancy is deciding how to handle the placenta during surgery. Removing it can sometimes lead to severe bleeding, which can be life-threatening for the mother. In cases where removal isn't safe, leaving the placenta in place may be the better option. However, this requires ongoing monitoring with blood tests (such as β-hCG levels) and imaging to ensure it gradually resolves without causing complications like infection or organ damage.

Methotrexate: A Changing Perspective
In the past, methotrexate was often used to help manage placental tissue left in place by promoting its breakdown. However, some experts now discourage this practice due to concerns about infection risks associated with necrotic tissue in the abdomen.

The Role of Early Diagnosis
Early and accurate diagnosis is critical in improving outcomes for abdominal pregnancies. Ultrasound remains a highly reliable tool in experienced hands and plays a crucial role in both diagnosing and monitoring these pregnancies before and after treatment.

References

[1] Okafor I, Ude A, Aderibigbe A, Amu O, Udeh P, Obianyo N, Ani C. Abdominal pregnancy- a case report. J West Afr Coll Surg. 2011 Jan;1(1):121-30. PMID: 25452947; PMCID: PMC4170250.
[2] Okafor I, Ude A, Aderibigbe A, Amu O, Udeh P, Obianyo N, Ani C. Abdominal pregnancy- a case report. J West Afr Coll Surg. 2011 Jan;1(1):121-30. PMID: 25452947; PMCID: PMC4170250.
[3] Zeck W, Kelters I, Winter R, Lang U, Petru E. Lessons learned from four advanced abdominal pregnancies at an East African Health Center. J Perinat Med. 2007;35(4):278-81. doi: 10.1515/JPM.2007.075. PMID: 17511595.

[4] George W. Allibone MD, Charles J. Fagan MD, Scott C. Porter MD The sonographic features of intra-abdominal pregnancy https://doi.org/10.1002/jcu.1870090706
[5] Rahman MS, Al Suleiman SA, Rahman J, Al-Sibai MH. Advanced abdominal pregnancy- observation in 10 cases. Obstetrics Gynecol . 1982;59:366–372 https://pubmed.ncbi.nlm.nih.gov/7078883/
[6] Cathy A, Malformations and deformations in pregnancy. American Journal of Medicineical Genetics. 1993;47(8):1189–1195. doi: 10.1002/ajmg.1320470812.
[7] Bright AS, Maser AH. Advanced abdominal pregnancy-review of the recent literature and report of a case. Obstetrics Gynecol. 1961; 17:316–324. https://journals.lww.com/greenjournal/citation/1961/03000/advanced_abdominal_pregnancy_review_of_the_recent.6.aspx
[8] Holzbach RT. Jaundice in pregnancy. Am JOURNAL OF Medicine. 1976. pp. 367–376. https://doi.org/10.1016/0002-9343(76)90374-0
[9] Beacham W.D., Hernquist W.C., Beacham W.D., Webster H.D. Abdominal pregnancy; discussion, classification, and case presentation. Obstet. Gynecol. 1954;4(Oct. (4)):435–439. https://pubmed.ncbi.nlm.nih.gov/13203872/
[10] Lamina MA, Akinyemi BO, Fakoya TA, Shorunmu TO, Oladapo OT. Abdominal pregnancy: a cause of failed induction of labour . Niger J Med. 2005;14(2):213–217. https://doi.org/10.4314/njm.v14i2.37183
[11] ELmiski F, Ouafidi B, Elazzouzi E, Elquasseh R, Lamrissi A, Fichtali K, Bouhya S. Abdominal pregnancy diagnosed by ultrasonography and treated successfully by laparotomy: Two cases report. Int J Surg Case Rep. 2021 Jun;83:105952. doi: 10.1016/j.ijscr.2021.105952. Epub 2021 Apr 30. PMID: 34020404; PMCID: PMC8142248.
[12] Le L, Saber M, Saha D, et al. Abdominal ectopic pregnancy. Reference article, Radiopaedia.org (Accessed on 22 Jan 2025) https://doi.org/10.53347/rID-13907