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Imaging Spectrum and Clinical Correlation of Post-Cesarean Uterine Dehiscence: A Retrospective Study

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ABSTRACT

Background: Uterine dehiscence is an uncommon but clinically significant complication following lower segment cesarean section (LSCS), often presenting with nonspecific symptoms and delayed diagnosis.

Aim: To evaluate imaging patterns of uterine dehiscence on contrast-enhanced CT (CECT) and MRI and correlate imaging findings with clinical severity.

Materials and Methods: This retrospective study included 11 postpartum patients with imaging-confirmed uterine dehiscence over a 3-year period. Clinical features, imaging findings, and complications were analyzed. Defect size was correlated with disease severity using Spearman correlation.

Results: Mean age was 28.1 ± 4.5 years. Abdominal pain was present in all patients. Pelvic collections (72.7%) and peritoneal involvement (72.7%) were the most common imaging findings. The mean defect size was approximately 1.5 cm. A moderate positive correlation ($r = 0.68$, $p < 0.05$) was observed between defect size and disease severity.

Conclusion: Post-caesarean uterine dehiscence demonstrates a wide imaging spectrum. CECT and MRI are complementary modalities, and early imaging plays a crucial role in reducing morbidity and guiding management.

INTRODUCTION

Uterine dehiscence refers to incomplete disruption of the uterine wall with intact serosa, typically occurring following LSCS. It differs from uterine rupture, which involves full-thickness disruption.

Clinical presentation is often nonspecific, including abdominal pain, fever, and distension. Early diagnosis is essential to prevent complications such as abscess and peritonitis.

MATERIALS AND METHODS

Study Design: Retrospective observational study.

Study Period: January 2022 – December 2024.

Population: 11 postpartum patients with imaging-confirmed uterine dehiscence.

Imaging: CECT (n=7), MRI (n=4).

Parameters: Defect size, collections, peritoneal involvement, complications.
Statistics: Mean ± SD, percentages, Spearman correlation.
Ethics: Institutional ethics committee approval obtained with waiver of consent.

RESULTS

Mean age: 28.1 ± 4.5 years (range 20–36).
Common symptoms included abdominal pain (100%), fever (63.6%), and distension (45.5%).
Imaging showed pelvic collections (72.7%) and peritoneal thickening (72.7%).
Mean defect size was approximately 1.5 cm. A moderate positive correlation (r = 0.68) was noted.

Clinical Presentation

Symptom	n (%)
Abdominal pain	11 (100%)
Fever	7 (63.6%)
Distension	5 (45.5%)
Vomiting	4 (36.4%)
Wound issues	2 (18.2%)

Imaging Findings

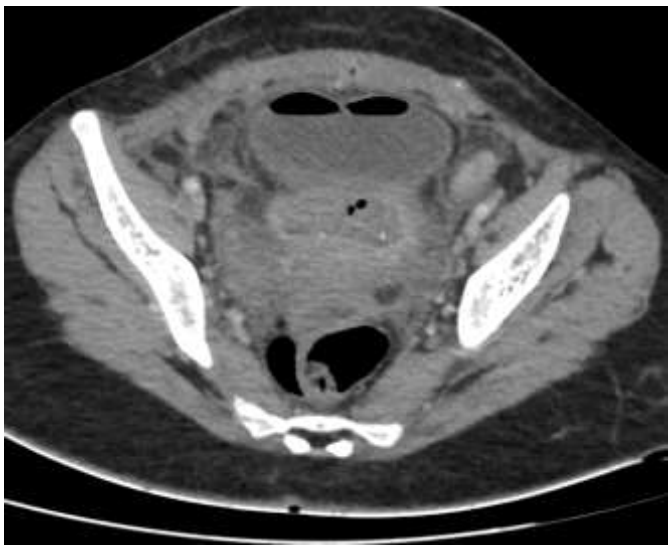
Finding	n (%)
Pelvic collections	8 (72.7%)
Peritoneal thickening	8 (72.7%)
Bladder flap collection	5 (45.5%)
Intralesional air locules	3 (27.3%)
Abdominal wall involvement	3 (27.3%)
Bowel complications	1 (9.1%)
Pleural effusion	1 (9.1%)

Severity Grading : Disease severity was categorized based on imaging findings:

- **Mild:** Small myometrial defect without collection
- **Moderate:** Defect with localized collection
- **Severe:** Defect with peritonitis, abscess, or bowel involvement

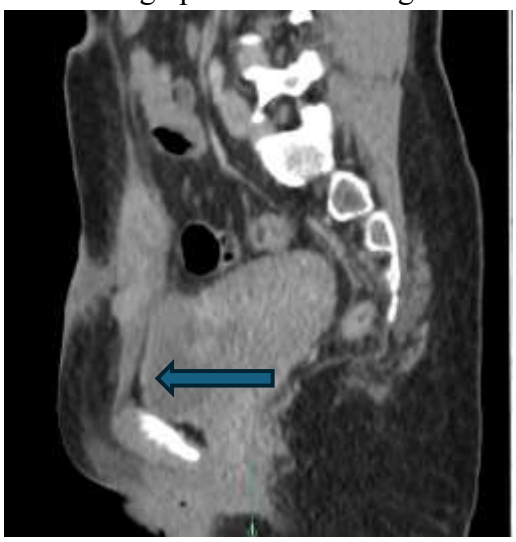
CASE 1:

Patient who is a old case of LSCS came with fever spikes. On CECT AP sagital and axial section there is focal breach and heterogeneity of lower uterine segment of approx length 0.9 cm with few air foci interposed between the lower uterine segment and the posterior bladder wall likely suggestive of lower uterine segment post cesarean dehiscence.



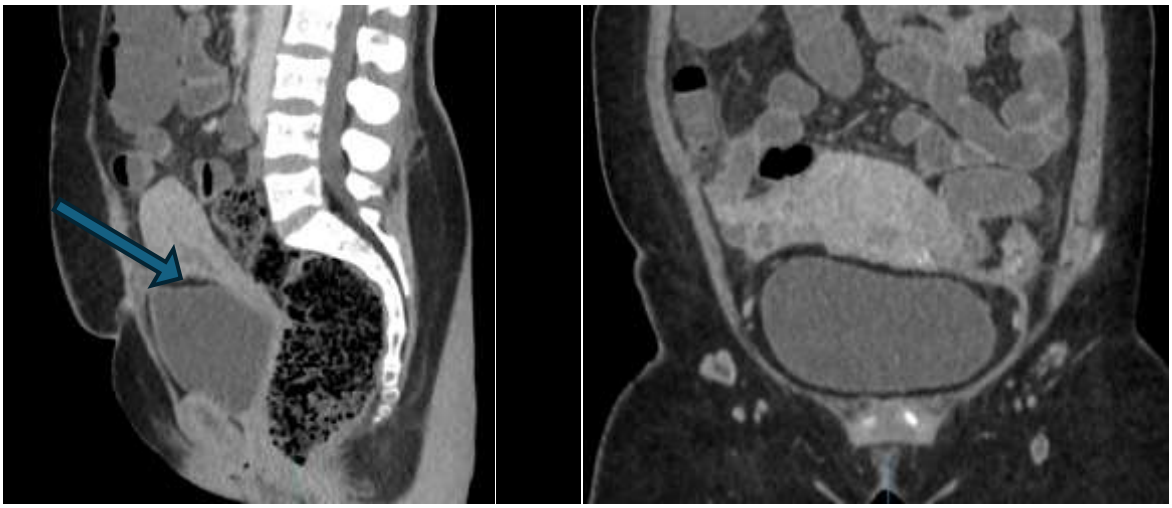
CASE 2:

Patient presented with Post LSCS , suture site swelling and pain since 10 days. post LSCS day 30. On CECT AP sagittal and coronal section there is focal gaping (maximum thickness 3mm) and heterogeneity of lower anterior wall of uterus at LSCS scar site. A well-defined tiny peripherally enhancing pocket of collection of approx. size 1.5x1.4x1.3cm, volume ~2-3cc seen in lower anterior wall of uterus at LSCS scar site reaching upto serosa causing its contoural bulge suggestive of uterine wound dehiscence.



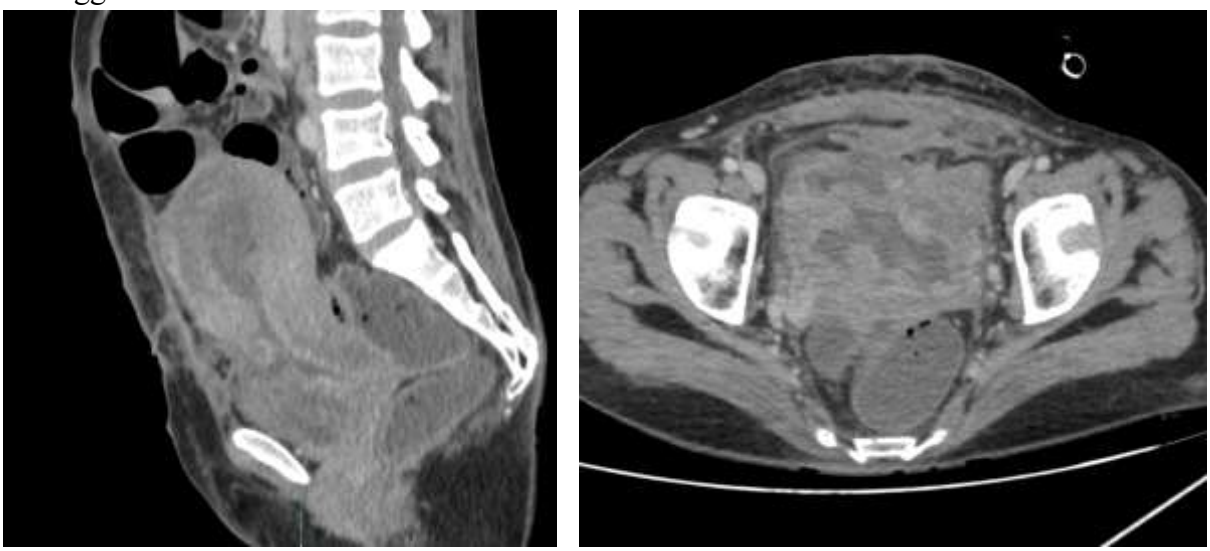
CASE 3:

Patient presented with PNC day 30 c/o pain in abdomen and fever on and off since 1 month . CECT AP sagittal and coronal section there is focal gaping and heterogeneity of lower anterior wall of uterus at LSCS scar site. A well defined tiny peripherally enhancing pocket of collection of approx size 1.7x1.6x1.8cm, volume ~3-5cc seen abutting scar site and anterior abdominal wall possibly uterine wall dehiscence.



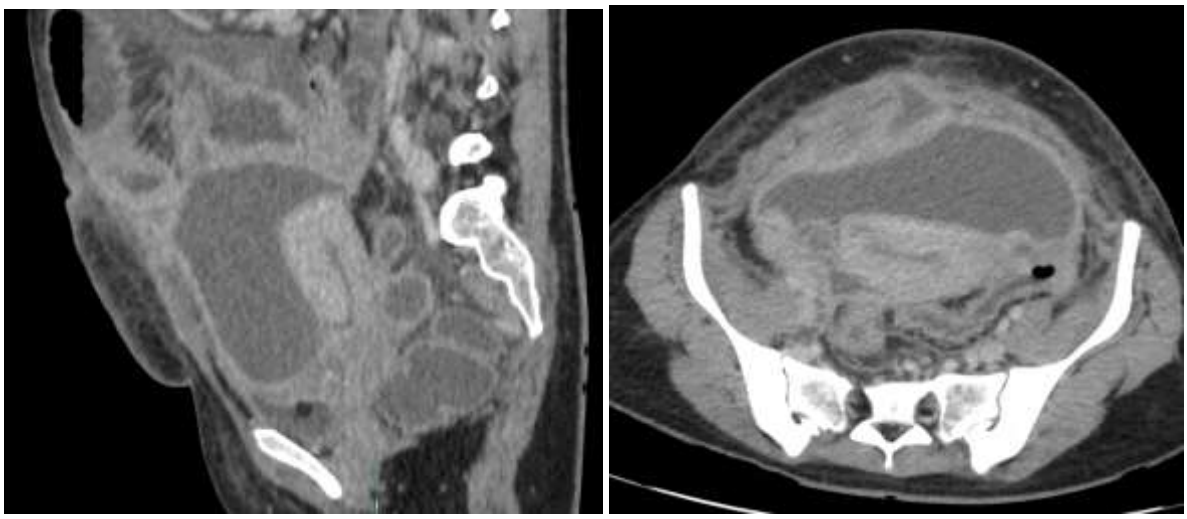
CASE 4:

Patient presented with C/O abdominal distension and pain since 2 day.PNC 3day . On CECT AP sagital and axial section a defect of size 9.7x7 mm noted along anterior myometrium in lower uterine segment through which endometrial collection is seen communicating with peritoneal cavity. Bulky and heterogenous post gravid uterus with an endometrial collection and anterior wall defect in lower uterine segment suggestive of uterine dehiscence.



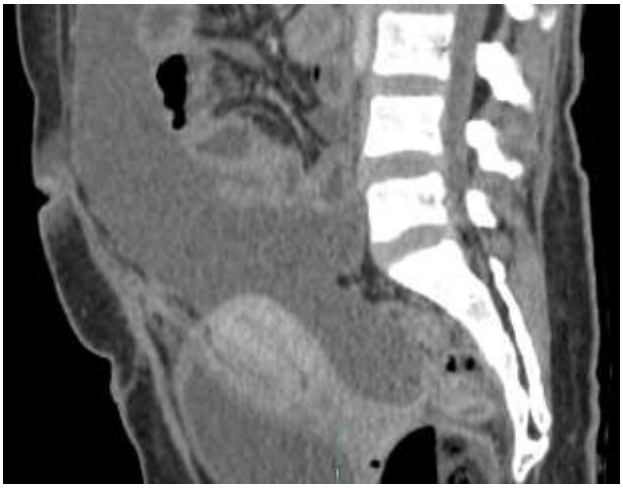
CASE 5:

Patient presented with C/O Pain in abdomen since 13 days c/o distention of abdomen since 13 days. no h/o vomiting.h/o constipation since 1 days. patient is pnc 23 days.h/o hemorrhoids since 6-7 yrs. on CECT AP sagital and axial section Uterus appear bulky consistent with post LSCS status. There is uterine dehiscence of size 2 cm noted at right anterolateral wall of uterus.



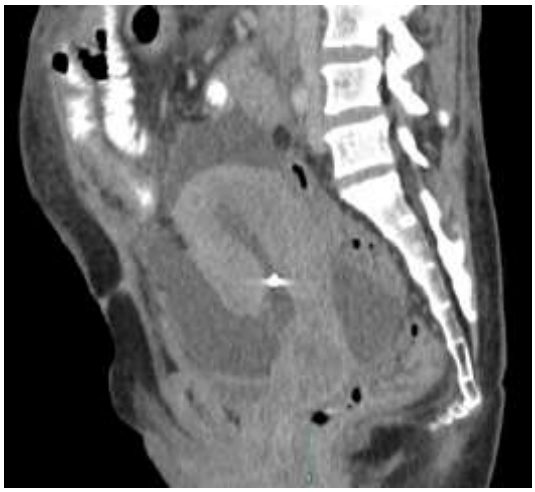
CASE 6:

Patient presented with C/O Pain in abdomen associated with vomiting and decrease food intake since2 days. Post LSCS day33 as there was uterine dehiscence. NO h/o DM/HTN/TB/FEVER. On CECT AP sagittal and axial section There is a small myometrial gap approximately length 1 cm and thickness 2.2 mm noted in lower segment of uterus suggestive of uterine dehiscence.



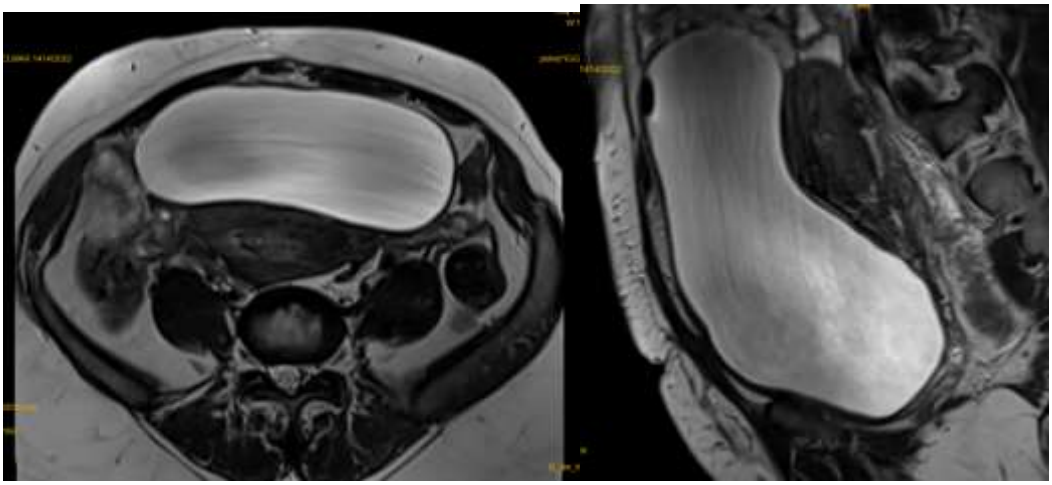
CASE 7:

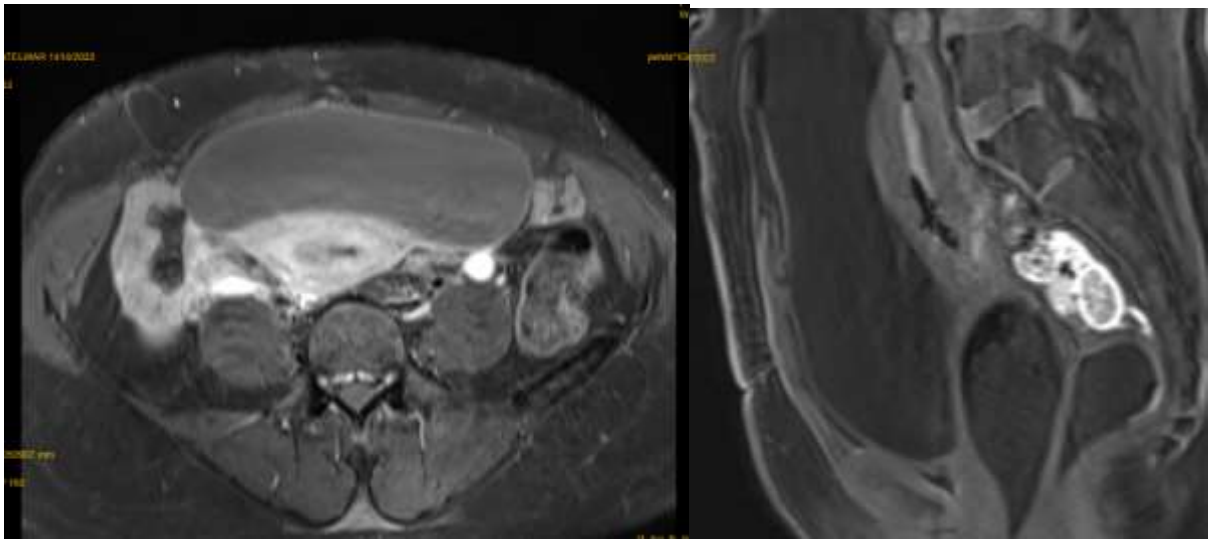
Patient presented with Day 10 PNC. c/o pain abdomen and vomiting since 7 days. No H/o fever/loose stools/haematemesis/melena. H/o LSCS 10 days back. On CECT of abdomen and pelvis performed Images were documented in bone window & soft tissue window settings. IV Contrast was given. No contrast reaction seen. There is myometrial gap approximately measuring 3.0X2.2X1.6cm(TRXAPXCC)seen in lower segment of uterus**.**



CASE 8:

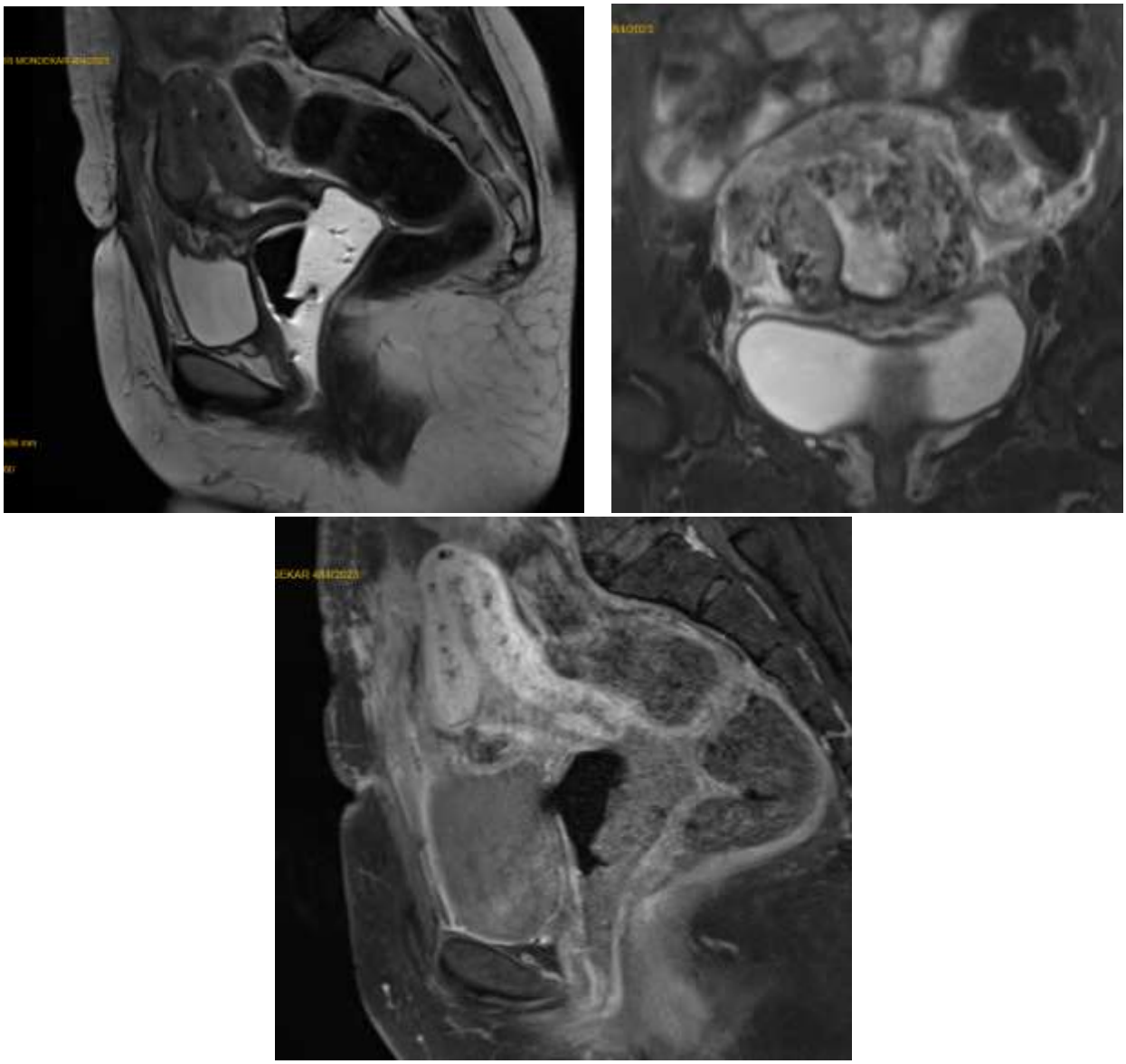
32 years female on MRI, A rent at right posteroinferolateral wall of uterus at lower part of body of uterus with intact serosal covering suggestive of Posterior_uterine wall contained dehiscence





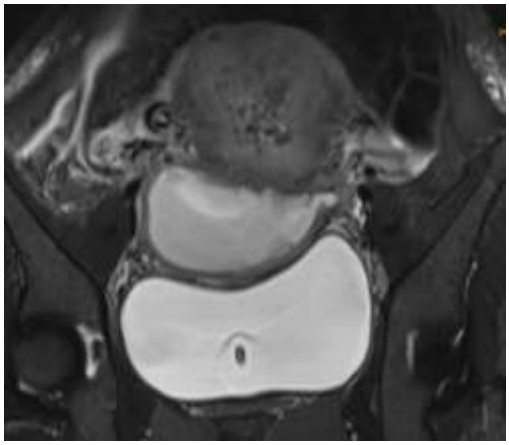
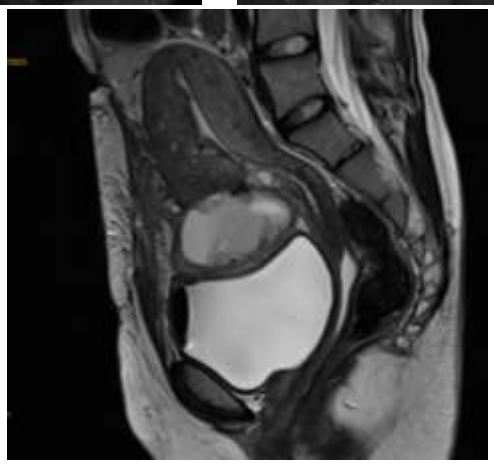
hggrCASE 9:

33 years female on MRI, Heterogeneity of lower uterine caesarean scar with overlying serosal focal bulge and thinning of myometrium, likely to represent uterine scar dehiscence with a small bladder flap, subfascial, extraperitoneal hematoma formation along rectus



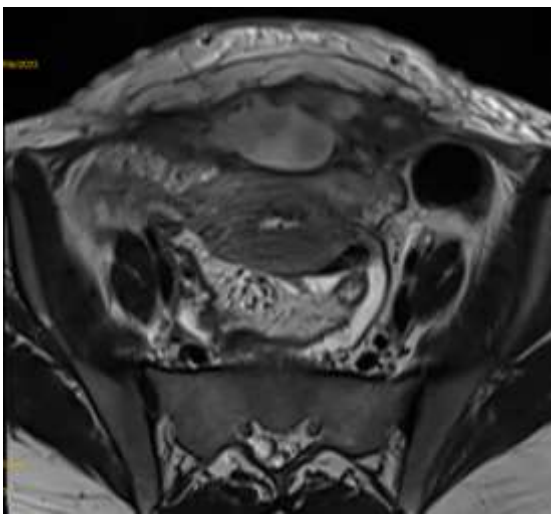
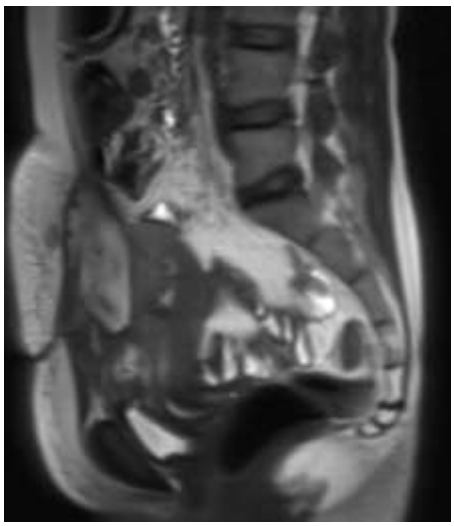
CASE 10:

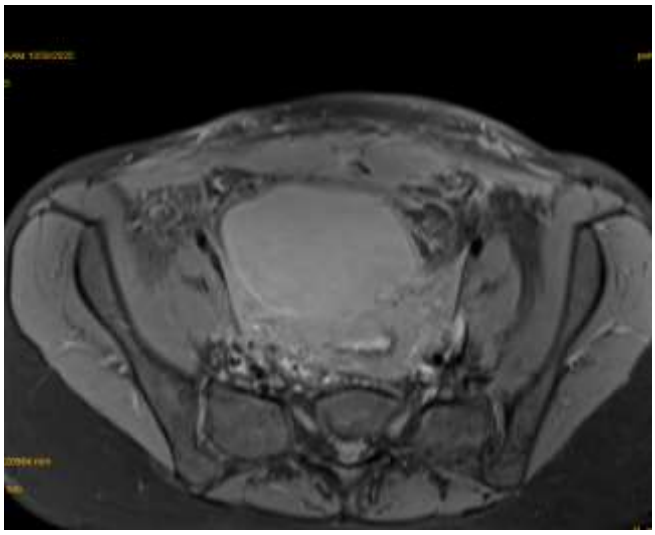
32 years female on MRI, Bulky post-partum status of uterus with lower uterine caesarean scar site heterogeneity and focal gapping involving upto 50% of myometrium with focal bulge in serosa as described above suggesting uterine scar dehiscence.

CASE 11:

20 years female on MRI, Uterine dehiscence at LSCS site with hematoma seen along anteroinferior uterine segment with? Superadded infective etiology.



DISCUSSION

Uterine dehiscence remains an underrecognized complication of LSCS due to its nonspecific clinical presentation. Imaging plays a pivotal role in early diagnosis, especially in symptomatic postpartum patients.

In our study, abdominal pain was the most common presenting symptom, consistent with prior literature. Pelvic collections and peritoneal involvement were the most frequent imaging findings, reflecting the infective and inflammatory spectrum of the disease.

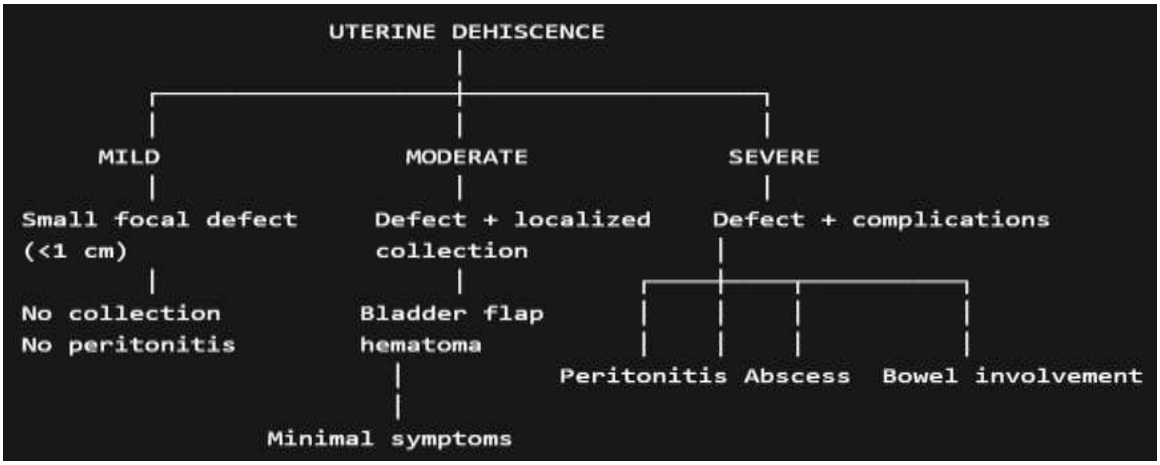
CECT proved particularly useful in detecting complications such as abscess formation, peritoneal involvement, and intralesional air, while MRI provided superior delineation of myometrial integrity and serosal involvement. This highlights the complementary role of both modalities.

A moderate positive correlation between defect size and disease severity was observed, suggesting that larger defects are more likely to be associated with complications. Similar observations have been reported in previous studies evaluating cesarean scar defects.

Early imaging is crucial, as delayed diagnosis may lead to significant morbidity including peritonitis and bowel complications. Imaging also plays an important role in guiding management decisions, ranging from conservative treatment to surgical intervention.

IMAGING CLASSIFICATION DIAGRAM (ADD AS FIGURE)

Title: Imaging-Based Classification of Post-LSCS Uterine Dehiscence



CONCLUSION

Post-cesarean uterine dehiscence demonstrates a wide imaging spectrum. Early imaging is critical in reducing morbidity and guiding management.

References

1. Kindig M, Cardwell M, Lee T. Delayed postpartum uterine dehiscence: a case report. J Reprod Med. 1998;43(7):591–592.
2. Wagner MS, Bédard MJ. Postpartum uterine wound dehiscence: a case report. J Obstet Gynaecol Can. 2006;28(8):713–715.
3. Edwards D, Mathur S, Flores H, Whittle W, Murji A. Uterine dehiscence: a laparoscopic uterine repair in early pregnancy. Fertil Steril. 2022;118(3):591–592.
4. Figueiro-Filho EA, Mejia-Gomez J, Farine D. Risk factors associated with uterine rupture and dehiscence: a cross-sectional Canadian study. Rev Bras Ginecol Obstet. 2021;43(11):820–825.
5. Van der Hock S, Hancock E, Dhupar N. Silent complete uterine dehiscence at repeat caesarean section: a case report. Int J Reprod Contracept Obstet Gynecol. 2025;14(8):2754–2756.
6. Secondary postpartum hemorrhage due to uterine scar dehiscence: a case report. Int J Surg Case Rep. 2023;112:108883.