

Spontaneous Adrenal Haemorrhage (SAH) In The Intrapartum Patient



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Transformation: Making Waves

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Introduction

SAH is idiopathic bleeding from the adrenal gland with no associated trauma or malignancy. The presentation in pregnancy can be hard to differentiate from other causes of abdominal pain, especially in the intrapartum period. The inability to diagnosis SAH can lead to an adrenal crisis, and result in maternal compromise or death.^{1, 2}

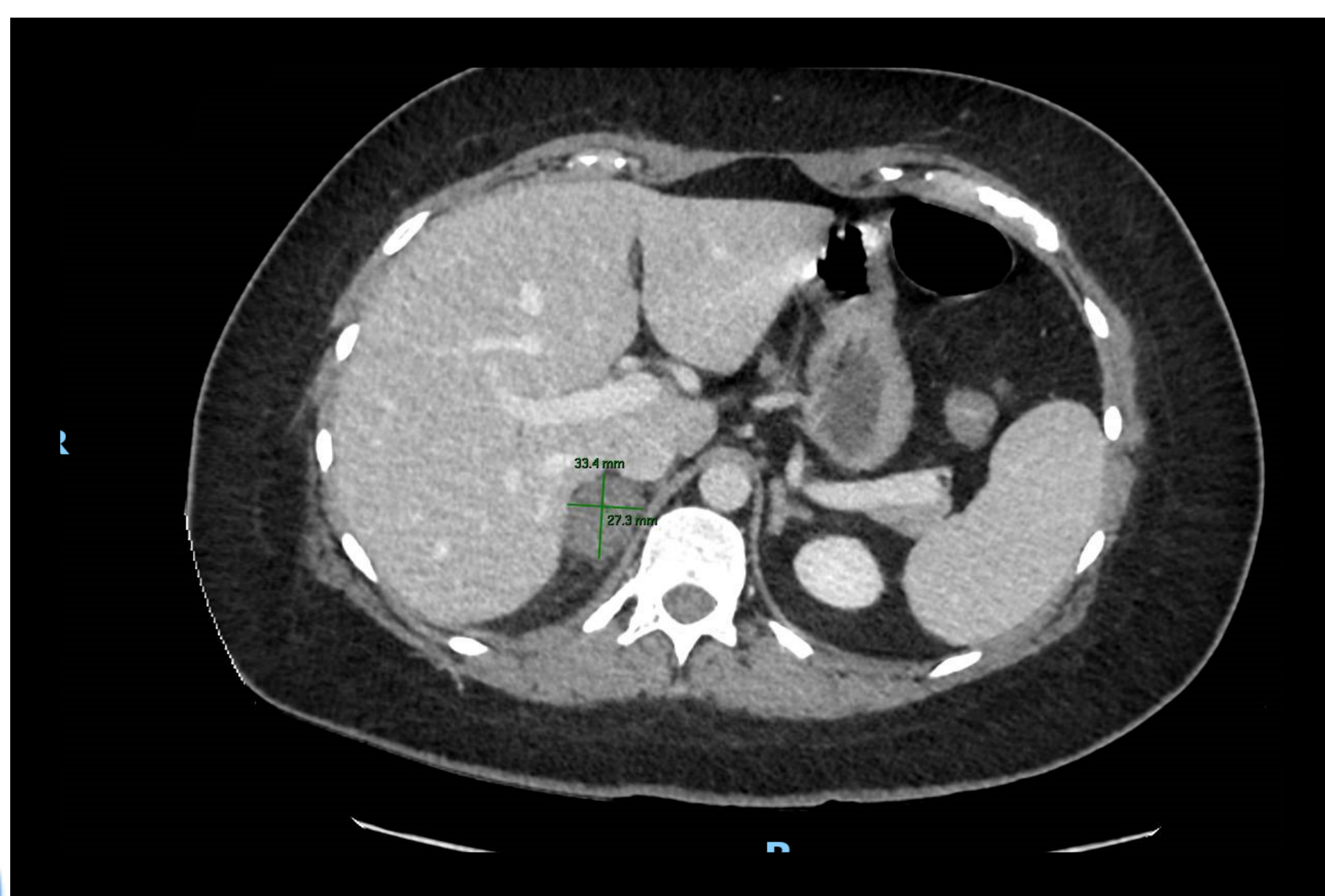
Background

SB was a 31yo female, G2P1, presenting in preterm labour at 36 weeks gestation. Her pregnancy was complicated by gestational diabetes on insulin. She was otherwise medically well, and had normal growth ultrasounds throughout her pregnancy.

Case

- SB presented with a 3 day history of constant lower abdominal pain, worse on the right side.
- On examination she was found to be haemodynamically stable, contracting, 3cm dilated with a soft abdomen between contractions.
- It was assumed labour was the cause of her pain and subsequently was admitted to delivery and an epidural administered.
- SB continued to have constant abdominal pain between contractions and was reviewed twice by the senior registrars on the obstetric team. Top-up analgesia through her epidural was given, to good effect.
- She had a vaginal delivery after 4 hours with an 100ml estimated blood loss.
- 5-hours post delivery SB had a pain crisis associated with severe right flank and lower quadrant pain.
- On examination, she had a tender abdomen with guarding, tachycardia, and her haemoglobin had dropped from 111 to 80. There was no free fluid on bedside USS, and normal lochia.
- A fentanyl PCA was commenced and urgent CT performed, with concerns for a broad ligament haematoma.

CT image identifying SB's adrenal haemorrhage



References

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3. Sacerdote, M.G., Johnson, P.T., Fishman, E.K. (2012). CT of the adrenal gland: the many faces of adrenal hemorrhage. *Emergency Radiology*. 19 (1): 53–60. doi:10.1007/s10140-011-0989-9
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Outcome

- SB was found to have a right adrenal gland circumscribed ovoid mass measuring 33 x 27 x 41 mm, with mild surrounding inflammatory change. Appearances favoured to represent an adrenal haematoma.
- Following phone consultation with general surgery, the decision was for conservative management:
 - As an inpatient SB was started on regular analgesia to manage her ongoing pain.
 - She remained an inpatient for a week, and slowly had her analgesia weaned over the next month.
 - As an outpatient she had ongoing input from the general surgical team to monitor the haematomas complete resolution; with 4 monthly images and blood test looking at her aldosterone, renin and cortisol levels.
 - Her blood tests were normal through out her monitoring.
 - Subsequent scans showed a complete resolution of the bleed at 8 months post-partum with no other overt cause for the haemorrhage found.
 - Following her 12-month review with the general surgical team SB was discharge from further outpatient care.

Discussion & Conclusion

Adrenal gland haemorrhage is a rare yet potentially fatal event, with clinical manifestations varying widely dependent on degree and rate of haemorrhage.

Causes include trauma, tumours, long term NSAID use, coagulopathies, and acute stress (e.g. infection, pregnancy complications, surgery or invasive procedures). In the setting of sepsis, the mortality rate for bilateral haemorrhages can reach 90%.³

It is thought, that in SB's case, it was likely due to acute stress in pregnancy – gradually increased blood flow to the adrenal gland and glucocorticoid secretion leads haemorrhage because of the higher pressure within the adrenal gland.^{1, 4}

The non-specific signs and symptoms often prevent prompt recognition and proper treatment. Nonspecific pain is the most consistent symptom, present in over 65% of cases.¹ Fever also occurs in about 50% of patients.² Unilateral haemorrhage is not typically associated with biochemical changes. When biochemical changes are present, timely steroid replacement is crucial for survival, particularly in bilateral cases.^{2, 4}

Just like in SB's case, management is now mostly non-operative, with serial CT and/or MRI surveillance.

SAH should be considered in the differential for abdominal pain in the pregnant woman. Prompt recognition and assessment of adrenal function is vital to prevent adrenal crisis, shock, and death. Imaging with CT is the gold standard, or MRI can also be used in the antepartum period.