

Massive Obstetric Hemorrhage Complicated by Submassive Pulmonary Embolism - *A Massive Case Report*

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Introduction

Postpartum hemorrhage (PPH), is responsible for 25% of maternal deaths each year. While PPH is a major complication of cesarean delivery, the risk of thromboembolism during and after pregnancy is increased by a factor of 4. Our case report highlights these complications occurring during the same hospital course. It is paramount that clear communication and early recognition of abnormal postpartum bleeding be established.

Case Description

Patient is a 32-year-old G1P0 female without any previous medical history who was admitted for induction of labor for A1GDM and Pre-E without severe features. The labor course was complicated by chorioamnionitis and non-reassuring fetal heart tones, so decision was made to proceed for cesarean delivery.

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Timeline of Events

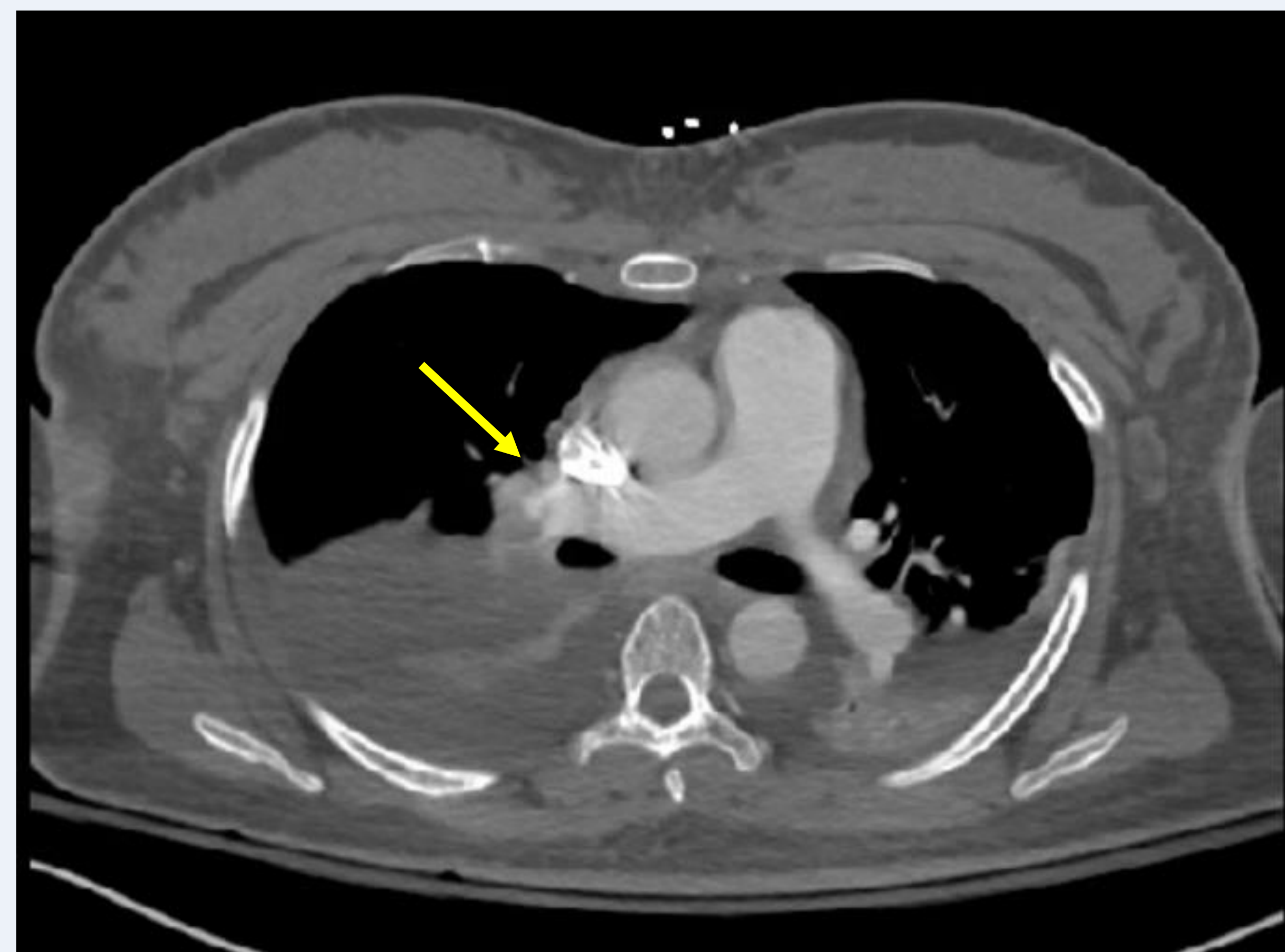


Figure 1. Pulmonary embolism (arrow) seen in distal right pulmonary artery.

POD0

- Patient to the OR for cesarean delivery
- Delivery of baby
- Repair of ligated uterine artery
- During closure, hypotension (MAPs low 50s) and increasing somnolence noted
- Patient intubated for airway protection (EtCO₂ 15)
- Arterial line placed and central access obtained
- Massive transfusion protocol (MTP) and pressors initiated
- Obstetric Team reported control of hemorrhage after their FAST exam and observation that MAPs were improved with ongoing MTP; Anesthesia team expressed concern for continued hemorrhage.
- Patient transferred to ICU in critical condition

POD1 (midnight)

- Patient remains unstable in ICU
- To OR for exploratory laparotomy
- Obstetric Team unable to find source of bleeding but proceed with hysterectomy
- Patient remained hemodynamically unstable, so vaginal packing applied, and IR was consulted
- Patient taken to IR suite for left internal iliac artery embolization
- Hemostasis achieved
- In all, patient received 18 units of pRBCs, 18 FFP, 3 platelets, and 4 cryoprecipitate for the procedures
- Taken back to ICU intubated

POD2

- Frank blood noted in patient's foley
- Patient taken back to OR for bilateral urethral repair

POD3

- Patient condition stabilized and was successfully extubated

POD4

- Patient taken back to OR for examination under anesthesia and removal of vaginal packing
- Upon induction, patient acutely desaturated and became hypotensive
- Manual bag mask ventilation via ETT with minimal improvement
- Anesthesia STAT called overhead, procedure aborted, and patient was taken to CT scan for stat CT-PE protocol
- Imaging revealed submassive pulmonary embolism in right main pulmonary artery
- Patient transported back to ICU intubated
- After stabilization, packing removed at bedside
- TTE revealed severely depressed LVEF 20-25% with RVSP 38
- Heparin infusion initiated

POD6

- Patient extubated and repeat TTE showed improvement of EF to 50-55%

POD14

- Patient discharged

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Discussion/Conclusion

EBL is often undercalculated, and most parturients can lose up to 1000 mL of blood with minimal hemodynamic changes. Due to maternal changes in cardiac output, substantial blood volumes can be lost very quickly, so there needs to be a prompt decision for transfusion/resuscitation and definitive therapy (i.e., arterial embolization, hysterectomy) when significant blood loss is recognized.

PPH is a risk factor for thrombosis, especially if transfusion occurs. Must consider mechanical thromboprophylaxis; pharmacologic prophylaxis should be postponed until coagulation has normalized.

Lastly, but most importantly, communication is key. Massive obstetric hemorrhage necessitates a multidisciplinary effort. Early involvement of teams outside of L&D (i.e., ICU, blood bank, etc.) is also important to coordinate perioperative care and stabilization.

References

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