



## Case report

## Hysterectomy after a failed conservative management of placenta increta: A case report

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## ABSTRACT

**Introduction and importance:** Conservative management of placenta accreta is a recent approach demarcated by leaving the placenta in situ. It can be applied either after a failed attempt to remove the placenta manually or without previous attempts.

**Case presentation:** In this case, we present a 31-years-old woman who was diagnosed with placenta increta during the cesarean section. Surgeons tried to remove the placenta manually, but they have failed and left the placenta in situ to avoid performing a hysterectomy on the patient.

**Case presentation:** Inappropriate follow-up clinically ultrasound results in severe bleeding and subsequent emergent urges to conduct a hysterectomy to save the patient's life.

**Conclusion:** Conservative management requires a close follow-up using ultrasonography to avoid any fatal complications.

## 1. Introduction

Placenta accreta spectrum (PAS) is identified by an abnormal invasion of the placenta into the underlying uterine myometrium. It is further categorized into placenta creta, increta, or percreta depending on the depth of the villous invasion into the myometrium [1]. The remarkable increase in cesarean delivery rate has predisposed to a parallel elevation of PAS incidence. Placenta previa is considered to be an additional risk factor [2].

Management of PAS can be achieved through cesarean hysterectomy, extirpative, or conservatively [3]. Although hysterectomy is the gold standard of management, conservative management by leaving the placenta in situ can be applied; either after a failed attempt to remove the placenta manually or without any previous attempts [2,4]. Conservative management of PAS is associated with a decline in morbidity and mortality rates together with the demand for a massive blood transfusion [4]. However, leaving the placenta in situ may have some concerns regarding its subsequent complication as it requires a multidisciplinary follow-up involving the patient and surgeon by using the appropriate investigation methods at the appropriate time.

Herein, we report a patient who had a previously failed attempt to

remove the placenta manually and subsequently managed by leaving the placenta in situ to avoid hysterectomy. This patient experienced hemorrhagic shock and secondary hysterectomy due to the inappropriate clinical and radiologic follow-up.

This case has been reported in line with the SCARE 2020 criteria [5].

## 2. Case presentation

A 31-years-old woman (gravida 5) presented to our emergency department with severe vaginal bleeding. Her blood pressure was 80/50 mm Hg, her heart rate was 120 bpm with pulsus parvus, and her temperature of 38.5 °C. She was pallor and had cold extremities. Gynecological examination revealed a dilated cervix with severe vaginal bleeding. Her gynecological history revealed four previous pregnancies were delivered vaginally and a recent cesarean delivery 10 days earlier in a private hospital. Otherwise, the rest of her medical and family history was unremarkable. Ultrasonography revealed thrombi and fluids in the uterus, and pieces measuring 3–4 cm in diameter seem to be placental remnants. Laboratory results showed decreased hemoglobin (9.8 g/dL), hematocrit (28%), and RBC ( $3.80 \times 10^6/\text{mm}^3$ ) levels. Elevated WBC ( $19.3 \times 10^3/\text{mm}^3$ ; granulocytes: 78.20%; lymphocyte:

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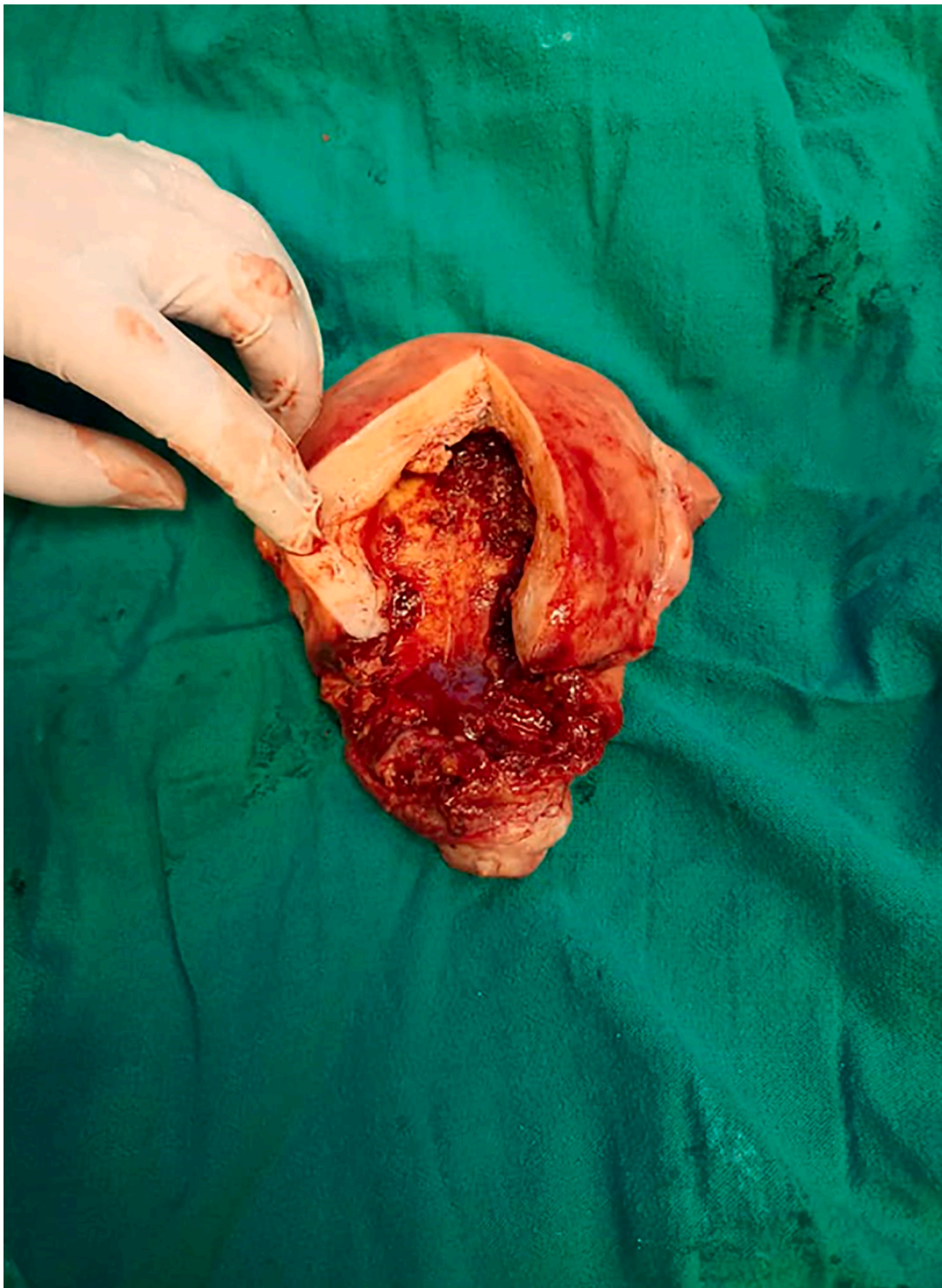
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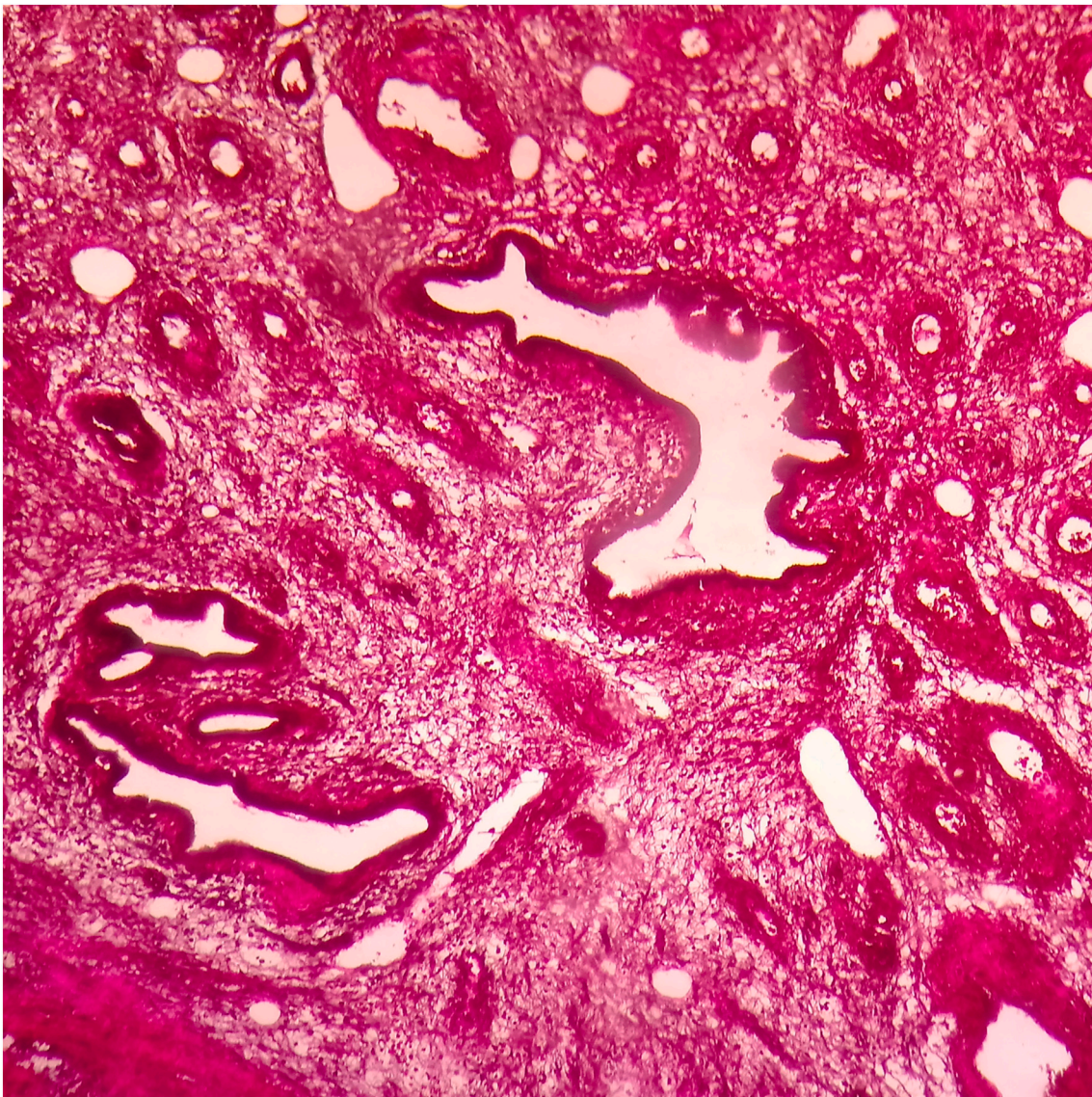


**Fig. 1.** Shows placental remnants in the myometrium.

5.80%) and platelet count were also observed ( $466 \times 10^3/\text{mm}^3$ ). Renal function tests were in the normal reference (urea; 21 mg/dL; creatinine; 0.7 mg/dL).

Due to the rapid deterioration in patient condition, Dema Adwan and her team performed an exploratory laparotomy under general anesthesia, which revealed a c-section scar on the uterus and a placenta invading the myometrium; no invasion toward the serosa or visceral organs was observed (Fig. 1). After taking a previous informed consent we decided to perform a total hysterectomy. The hemorrhage has been hemostasis, then we embedded a drainage tube in the Douglas pouch and closed the abdomen layers. The patient received four blood units

and four plasma units during the procedure. She was transferred to the intensive care unit (ICU) with close monitoring of her vital signs and giving her broad-spectrum antibiotics. She also received one blood unit and one plasma unit in the ICU. We inserted a urinary catheter to monitor her urinary flow. The patient was in hemodynamic stability. She was afebrile, her blood pressure was 130/70 mm Hg, and her heart rate was 77 bpm. Histopathology of the residues confirms the diagnosis of placenta increta (Fig. 2) and revealed a severe, chronic endomyometritis (Fig. 3) with interstitial hemorrhage (Fig. 4). After getting information from the previous private hospital, we found that the patient had her last pregnancy complicated with placenta increta, and the



**Fig. 2.** Shows chorionic villi invading the myometrium.

diagnosis was made during the C-section due to poor prenatal care. The surgeons have tried to remove the placenta manually, but they failed and left the placenta in situ to avoid performing a hysterectomy. However, this was achieved without discussing the consequences and taking the patient's consent. In addition, the lack of appropriate follow-up using ultrasound imaging resulted in a severe life-threatening hemorrhage, which was controlled and managed successfully in our hospital. Therefore, we recommend a close clinical follow-up for any patient undergoing conservative management of PAS; vital signs and ultrasonography are mandatory.

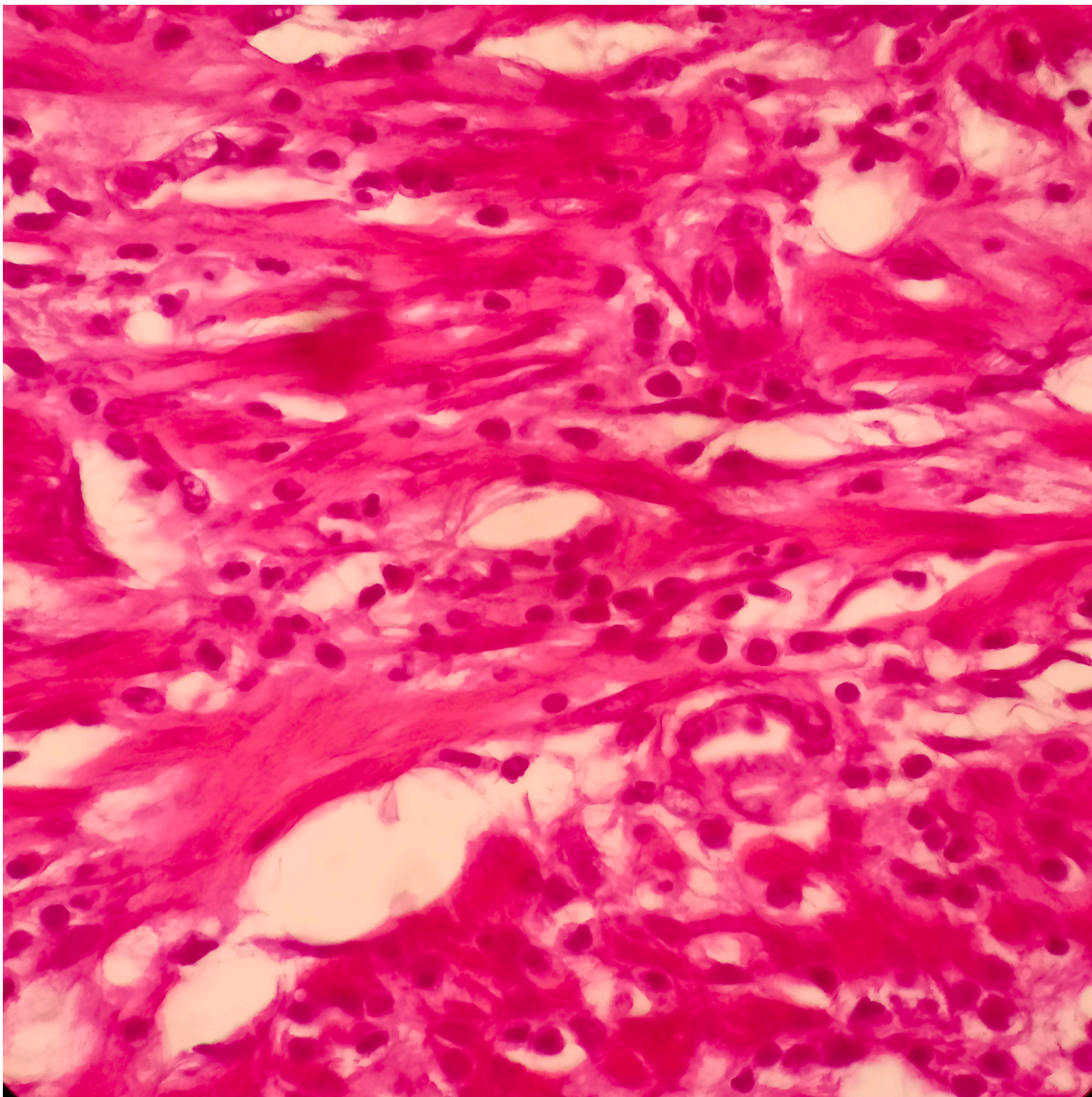
The patient was discharged from the hospital three days later and requested to come back after ten days for a follow-up visit. She was in good general condition. Ultrasonography showed normal kidneys without fluid accumulation in the abdomen.

### 3. Discussion

Our case describes the severe hemorrhagic shock as a late complication of the conservative management of placenta accreta spectrum disorder (PAS) in a woman undertaking her first cesarean section. The prevalence of PAS is 0.01–1.1% of births worldwide, with higher rates due to the steadily increasing cesarean delivery rate [6]. Prenatal

diagnosis and diligent follow-up using routine ultrasound imaging complemented with MRI in suspicious cases are required to avoid emergent surgical complications. Conservative management of placenta accreta is a new presented approach to evade hysterectomy complications and preserve fertility by leaving the placenta in situ after the delivery of the fetus [4]. Although conservative management success rates ranged from 60% and 85%, it is associated with risk of endometritis, sepsis, disseminated intravascular coagulation (DIC), and late perinatal hemorrhage [7]. A study involved 167 cases conservatively treated by leaving the placenta in situ revealed that the fertility was preserved in 78% of cases, and only 6% developed different maternal morbidities such as sepsis, uterine necrosis, peritonitis, injury to contiguous organs, acute pulmonary edema, acute renal failure, deep venous thrombophlebitis, and pulmonary embolism [3].

A strict patient selection policy for conservative management is crucial to avoid morbidity and emergent hysterectomy. Patients should be warned of those detrimental effects and counseled for the importance of postpartum follow-up. Despite the risk of complications such as bladder injuries, ureters, bowel, ovarian damage and infection, blood transfusions, disseminated intravascular coagulopathy, deaths, and long-lasting psychological deterioration secondary to infertility [8,9], hysterectomy is the cornerstone in placenta accreta management [9].



**Fig. 3.** Reveals chronic inflammation of the myometrium and presence of plasma cells.

Management of PAS disorder stipulates a multidisciplinary assistance approach including consultant obstetrician, anesthetist, hematologist, surgeons, urologists, nursing and paramedical staff. Compared to a non-multidisciplinary group, fewer estimated hemorrhage has occurred with lower demand of blood transfusion [10]. Detailed patient consulting about management and complications, written consent for hysterectomy, and no less than four units of cross-matched blood with blood products should be provided [11]. Antenatal diagnosis of PAS disorder offers an adequate period to optimize delivery outcomes in high-level maternal care facilities before the onset of labor or bleeding, inhibit placental disturbance, and prepare the patient for cesarean section [2].

#### 4. Conclusion

Hysterectomy remains the gold standard in management of placenta accreta spectrum. On the other hand, leaving the placenta in situ with or without a previous attempt to remove the placenta manually is an alternative approach to preserve the uterus and evade hysterectomy. When this approach is applied, close follow-up using ultrasonography is required to ensure the absence of any life-threatening complication.

#### Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

#### Provenance and peer review

Not commissioned, externally peer-reviewed.

#### Ethical approval

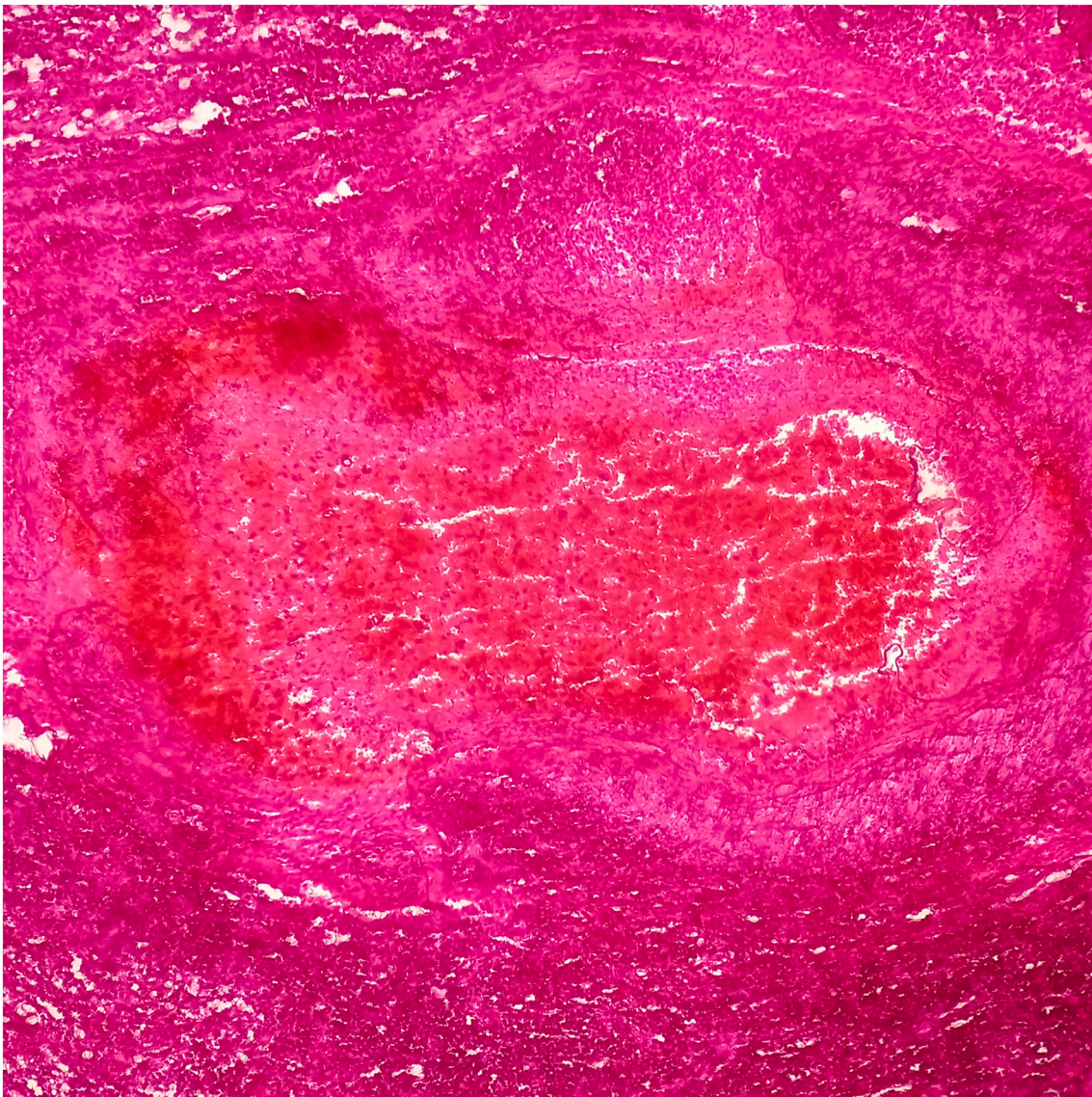
Ethical approval was not required.

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#### Guarantor

Sami Jomaa.



**Fig. 4.** Shows an interstitial hemorrhage.

#### Research registration number

None.

#### CRediT authorship contribution statement

SJ, MA, HR, and RB drafted the first manuscript  
DA and SJ revised the final manuscript  
DA performed the procedure  
DA and SJ collect the relevant data from the patient.

#### Declaration of competing interest

The authors declared that they have no conflict of interest.

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