

# RUDIMENTARY HORN PREGNANCY WITH A LIVE FETUS: EMERGENCY MANAGEMENT OF A 24-YEAR-OLD PATIENT PRESENTING WITH ACUTE ABDOMEN - A CASE REPORT AND REVIEW OF SURGICAL STRATEGY

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## ABSTRACT

**BACKGROUND:** Rudimentary horn pregnancy (RHP) is a rare Müllerian anomaly with high risk of rupture and catastrophic hemorrhage. Early recognition and definitive surgical management improve maternal outcomes.<sup>1</sup> **CASE PRESENTATION:** A 24-year-old woman presented with acute right lower quadrant pain and perineal pressure. Ultrasound suggested a live intra-abdominal/adnexal fetus at ~14 weeks with a normal uterus and ovaries;  $\beta$ -hCG markedly elevated; Hb 10 g/dL. Laparotomy revealed a rudimentary horn pregnancy with a fetus, attached right fallopian tube, and 30 mL clotted blood in the right adnexa. The rudimentary horn and ipsilateral tube were excised; transfusion given (1 unit whole blood, 4 units FFP). Postoperative course: stable, uncomplicated. **CONCLUSION:** Suspect rudimentary horn pregnancy in reproductive-age women with adnexal mass and elevated  $\beta$ -hCG; prompt surgical excision of the rudimentary horn and ipsilateral tube is recommended to prevent rupture and preserve the remaining uterine tissue.

**Keywords:** Rudimentary horn, Müllerian anomaly, ectopic pregnancy, obstetric surgery, emergency laparotomy

## Introduction

Define rudimentary horn and rudimentary horn pregnancy (RHP) with embryology: failure of one side of Müllerian duct to fuse or canalize, resulting in a unicornuate uterus with a rudimentary horn that may or may not communicate with the uterine cavity.<sup>2</sup>

**Epidemiology:** incidence estimates, association with ipsilateral unicornuate uterus, prevalence of RHP in pregnancy, risk of uterine rupture typically in the second trimester.

**Clinical relevance:** RHP often presents as acute abdomen due to rupture, hemorrhage, or degenerating pregnancy; diagnosis is challenging with conventional ultrasound; MRI can improve preoperative diagnosis

but is not always available in the emergency setting.

**Purpose of the report:** to describe diagnostic workup, surgical management, and outcome, and to review best practices for management of RHP.

## Case Presentation

### Patient demographics and history:

Age: 24 years

Gravida/para: G2P0 +1

Obstetric history: no known prior uterine surgery; prior normal menstrual history; no chronic medical illness

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Presenting complaint: acute abdominal pain in RLQ with a sense of perineal pressure  
Vital signs on presentation: stable

### PHYSICAL EXAMINATION:

Abdominal: tenderness in RLQ, no overt peritoneal signs initially; guarding not prominent  
Pelvic: not detailed in the provided data;

### INVESTIGATIONS:

#### Laboratory:

CBC: Hb 10 g/dL; WBC within normal range or as reported  
Serum  $\beta$ -hCG: 108,100 mIU/mL  
Other relevant labs: serum crossmatch, coagulation profile normal

#### Imaging:

Ultrasound (Department of Radiology, Saidu Teaching Hospital):  
14 weeks live intra-abdominal fetus with cardiac activity  
Placenta present; movements observed  
Ectopic location in the right adnexa  
Uterine cavity and ovaries described as normal  
Minimal pelvic fluid/pouch of Douglas (POD) fluid

#### Provisional diagnosis:

Abdominal ectopic pregnancy vs rudimentary horn pregnancy

#### Management plan:

Admit to labor room with high-risk consent; prepare for emergency laparotomy given location and risk of rupture  
Resuscitation: IV access, cross match, blood products available (1 unit whole blood, 4 units FFP prepared)  
Perioperative planning: anesthesia risk assessment, intraoperative blood loss anticipation

#### Intraoperative course:

Access: midline or Pfannenstiel approach  
Findings: rudimentary horn pregnancy with fetus; 30 mL of clotted blood in right adnexa; normal ovaries; right fallopian tube attached to rudimentary horn; uterine cavity normal  
Procedure: excision of rudimentary horn with attached right fallopian tube; hemostasis achieved  
Specimens: rudimentary horn with fetus; attached right

fallopian tube; placenta not present or described

#### Postoperative course:

Immediate: vitally stable; urine output adequate  
Lab follow-up: hemoglobin drop (if transfusion given, post-op Hb)  
Complications: none reported  
Disposition: discharged with follow-up; contraception counseling; plan for pelvic imaging to evaluate Müllerian anomalies

## Discussion

#### Pathophysiology and embryology:

Mechanism of rudimentary horn formation; typical lack of communication with the uterine cavity.<sup>2</sup> Implications for pregnancy: Implantation in rudimentary horn with limited distensibility leads to rupture risk.<sup>3</sup>

#### Diagnostic considerations:

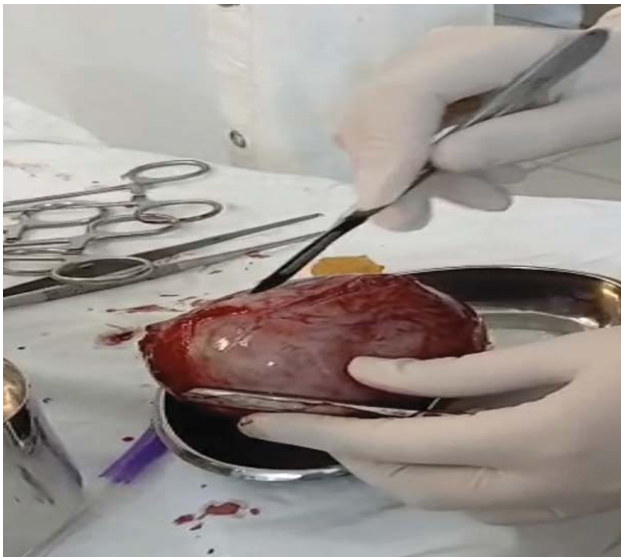
Why ultrasound suggested extra-uterine location; typical ultrasound features of rudimentary horn pregnancy include a gestational sac not in the main uterine cavity, a thin myometrial layer surrounding the gestation, and a separate horn.<sup>4</sup>  
The role and limitations of MRI in diagnosing Müllerian anomalies.<sup>5,6</sup>

#### Management principles:

Indications for surgical intervention: hemodynamic stability with a controlled laparotomy or diagnostic laparoscopy in stable patients; emergent laparotomy in suspected rupture or uncertain anatomy.<sup>7</sup>



**Figure 1:** Ultrasound image demonstrating a live fetus in the right adnexal region with a normal uterine cavity; minimal pelvic fluid. Diagnosis considered: abdominal ectopic pregnancy vs rudimentary horn pregnancy.



**Figure 2:** Intraoperative view showing a rudimentary horn



**Figure 3:** Excised rudimentary horn specimen containing a fetus with attached right fallopian tube; prepared for histopathology.

Rationale for removing the rudimentary horn and ipsilateral tube rather than hysterectomy.<sup>7</sup>

Fertility considerations: potential for future pregnancies with a preserved uterus; risk of recurrence in the remaining unicornuate uterus.<sup>8</sup>

Blood loss management: transfusion strategy; use of hemostatic agents as applicable

**Outcomes and prognosis:**

Maternal risk of hemorrhage, uterine rupture, and maternal mortality historically high; modern surgical management improves outcomes.<sup>8,9</sup>

Importance of close postoperative monitoring and follow-up imaging to evaluate uterine anatomy and plan future pregnancy management.<sup>10</sup>

**Limitations:**

Single-case report; imaging interpretation can be operator-dependent; lack of long-term fertility data in this report

**Comparison with literature:**

Align observations with prior case series and reviews on RHP  
Highlight differences in presentation, imaging, and management strategies.


**Conclusion**

Early recognition of rudimentary horn pregnancy is critical to avoid rupture and catastrophic hemorrhage. In this case, emergency laparotomy with excision of the rudimentary horn and ipsilateral tube yielded a favorable outcome with stable postoperative recovery. Recommend systematic evaluation for Müllerian anomalies in reproductive-age women presenting with unusual pregnancy patterns or adnexal masses. Emphasize the need for multidisciplinary care, including obstetrics, radiology, and transfusion medicine.

**ETHICS AND CONSENT:** Informed consent was obtained from the patient for publication of anonymized clinical data and images. Institutional Ethics Committee/IRB approved

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