



A Systematic Review of Rudimentary Horn Pregnancies: Insights from Case Reports

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Introduction

Rudimentary horn pregnancy (RHP) is a rare but serious obstetric complication affecting 1 in 76,000-150,000 pregnancies.
Last comprehensive review: Nahum 2002 (588 cases from 1900-2000)

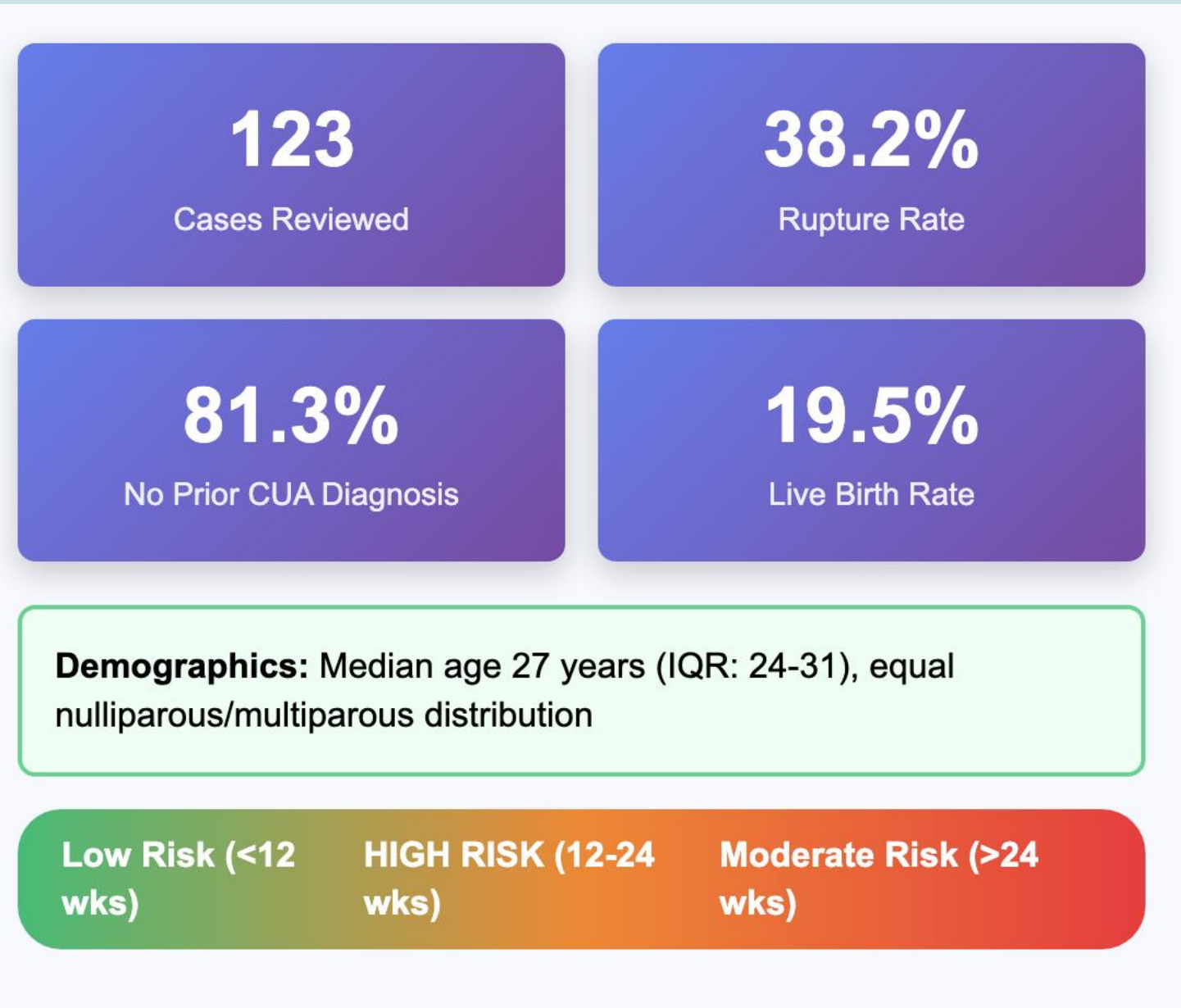
Objectives

- Comprehensive analysis of RHP cases since 2000
- Identify clinical spectrum and outcomes
- Focus on rupture risk factors
- Evaluate diagnostic imaging modalities

Methodology

Study Design: Systematic review following PRISMA guidelines
Registration: PROSPERO CRD42025629832
Search Strategy:
Databases: PubMed, Scopus, Ovid Medline, Google Scholar
Period: January 2000 - November 2024
Language: English
Study types: Case reports and case series
Analysis:
Kaplan-Meier survival analysis
Cox proportional hazards model
Chi-square/Fisher's exact tests

Results



Diagnostic Challenges

Imaging Modalities:

Transabdominal US: 65.0%
Transvaginal US: 25.2%
MRI: 44.7% of cases
3D Ultrasound: 9.8%

Key Finding: Empty uterine cavity with extrauterine gestational sac (46% of cases)

Common Presentations:

Pain (45.5%)
Hemodynamic shock (19.5%)
Failed MTOP (14.6%)
Routine antenatal scan (22.8%)

Rupture Risk Analysis

Critical Risk Window:

Highest risk period: 12–24 weeks gestation

48% of ruptures occurred during second trimester

Age-Related Risk Stratification:

<27 years: Higher rupture risk, worse outcomes

Only 25% survival to term without rupture

≥27 years: Better outcomes

50% survival to term without rupture

Log-rank test: $p = 0.02$ (statistically significant)

Gestational age at diagnosis: Most significant predictor

HR = 1.12 per week (95% CI: 1.06–1.18, $p < 0.001$)

12% increased hazard per additional week

High-Risk Groups:

- Young women (<27 years)
- Nulliparous patients
- Later gestational age at diagnosis

Invasive Placenta Risk: Increases with advancing gestation (15% in late diagnosis vs 6.4% early)

Management Trends:

- Laparotomy: 71.5% (increasing with gestation)
- Laparoscopy: 28.5% (preferred for early cases)
- Non-communicating horns: 92.7%

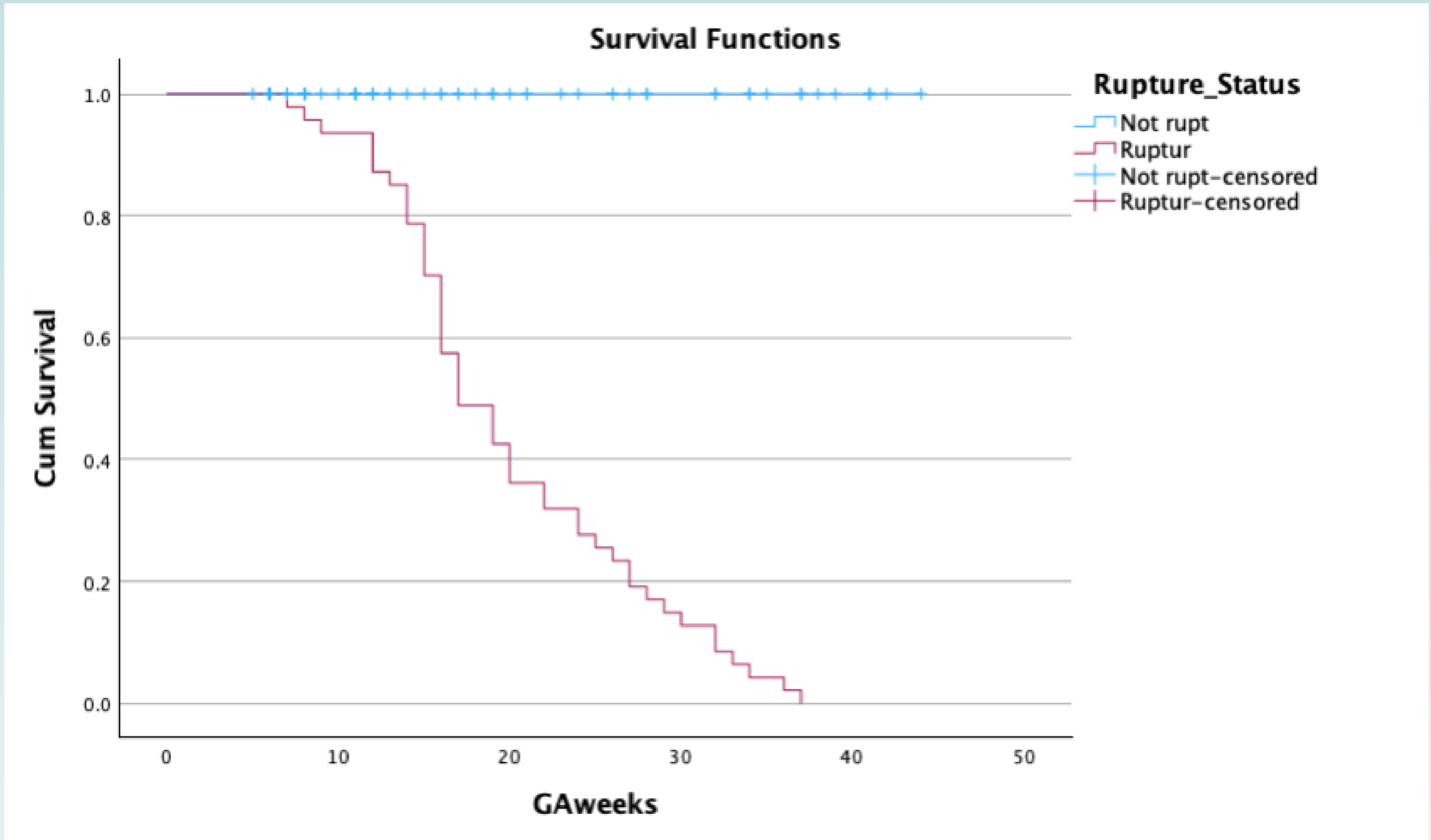


Fig 1: Kaplan Meir Curve assessment of hazard of RHP rupture against gestational age.

Conclusion

Key Findings

Significant diagnostic delays persist despite modern imaging.

Poor fetal outcomes with only 1 in 5 live births

Invasive placentation risk increases with gestation

Clinical Recommendations

- **Early screening:** Detailed first-trimester uterine assessment
- **Urgent intervention:** Young, nulliparous women at 12-24 weeks
- **Multimodal imaging:** Combine TVS, MRI, and 3D-US
- **Future Directions:** Development of prospective multicenter registries with standardized imaging protocols needed to better define natural history and optimize management strategies.

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