



Atypical Presentation of Ectopic Pregnancy with β -hCG Rise Mimicking a Normal Intrauterine Pregnancy

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Abstract

Background: Ectopic pregnancy classically presents with a suboptimal β -hCG rise; however, normal-rise patterns may occur and mislead diagnosis.

Case: A 36-year-old woman presented at 5+2 weeks with rising β -hCG (1,166 \rightarrow 2,043 mIU/mL; +85%/48h). At 6+4 weeks she developed mild pain and spotting. β -hCG was 19,000 mIU/mL but transvaginal ultrasound revealed an empty uterus and a right adnexal mass.

Laparoscopic salpingectomy confirmed ectopic pregnancy.

Conclusion: A normal β -hCG rise cannot exclude ectopic pregnancy. Ultrasound findings must take precedence over biochemical trends.

Introduction

Ectopic pregnancy remains a leading cause of first-trimester morbidity. Classically, diagnosis relies on discordance between β -hCG kinetics and ultrasound findings. However, approximately 8–10% of ectopic pregnancies demonstrate a normal β -hCG rise, creating a false sense of reassurance. Such atypical patterns may delay diagnosis, increasing risk of rupture and haemorrhage. This case highlights the diagnostic challenge posed by normal β -hCG dynamics and reinforces the importance of correlating symptoms with imaging.

Case Presentation

A 36-year-old primigravida presented at 5+2 weeks with a positive pregnancy test. She denied pain or bleeding. Initial β -hCG was 1,166 mIU/mL. At 5+4 weeks, β -hCG rose to 2,043 mIU/mL (+85% in 48 hours). At 6+4 weeks she developed mild right-sided pelvic pain and brownish spotting. β -hCG had increased to 19,000 mIU/mL. Transvaginal ultrasound revealed an empty uterus despite β -hCG exceeding the discriminatory zone. A right adnexal cystic lesion (9.5 \times 8.5 mm) adjacent to a 3.5 cm ovarian cyst was noted. Minimal free fluid was present. She underwent laparoscopic salpingectomy, confirming a right tubal ectopic pregnancy.

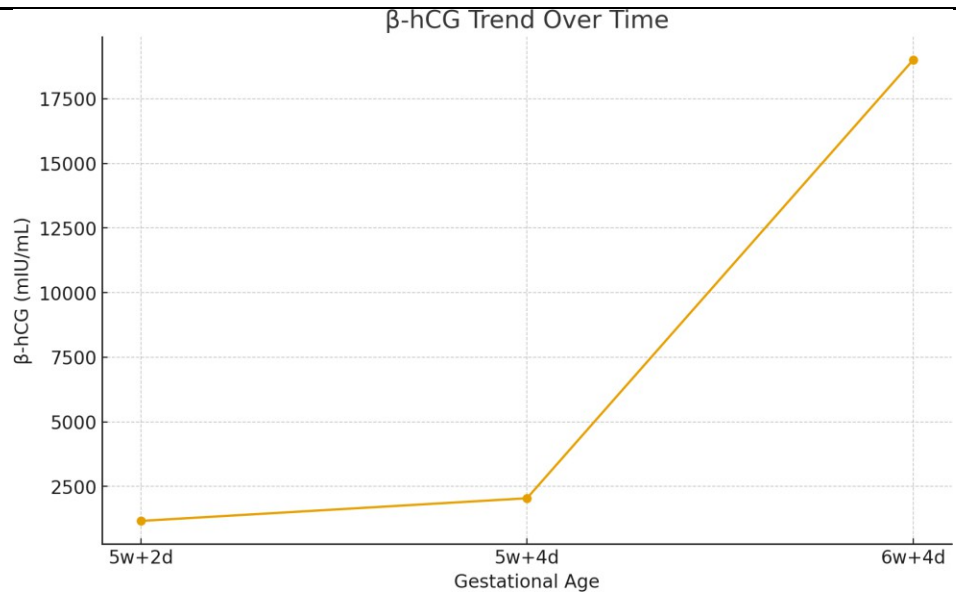


Figure 1: Serial β-hCG trend showing an atypically normal rise mimicking a viable intrauterine pregnancy.

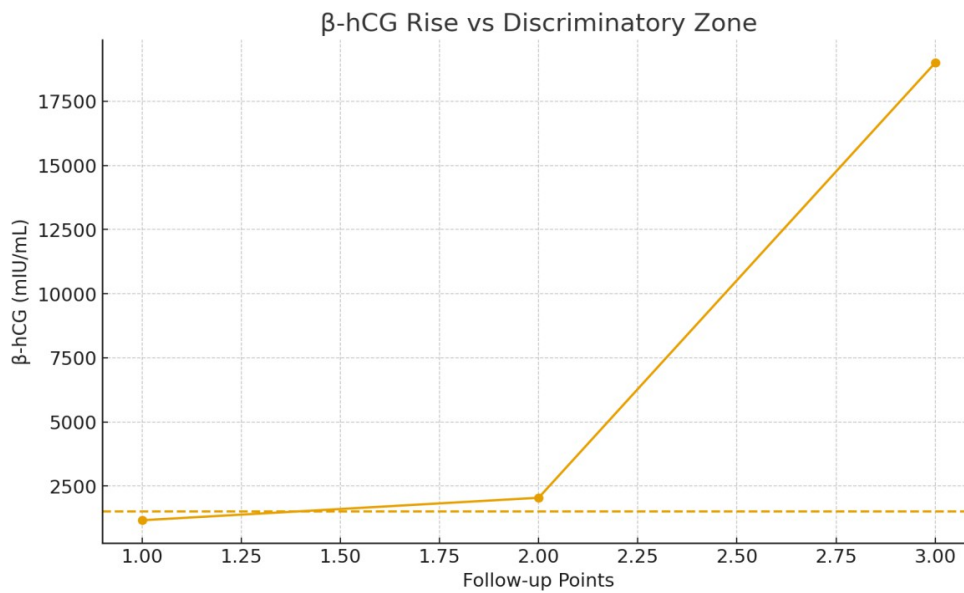


Figure 2: β-hCG plotted against the discriminatory zone (1500 mIU/mL). Despite high β-hCG, no intrauterine sac was visualized.

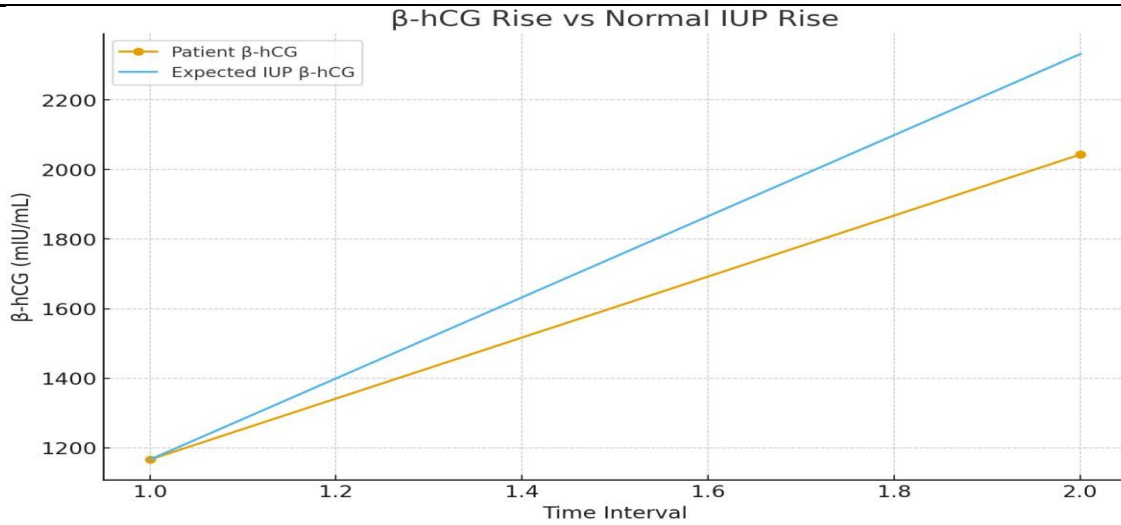


Figure 3: Comparison of patient's β-hCG rise with typical rise expected in viable intrauterine gestation.

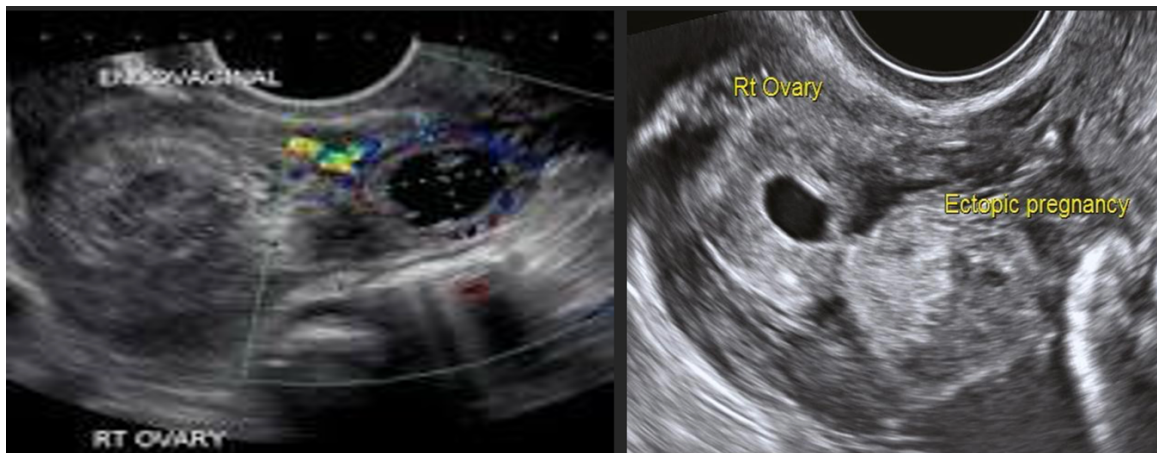


Figure 4: Transvaginal ultrasound showing empty uterine cavity with trilaminar endometrium despite elevated β-hCG.

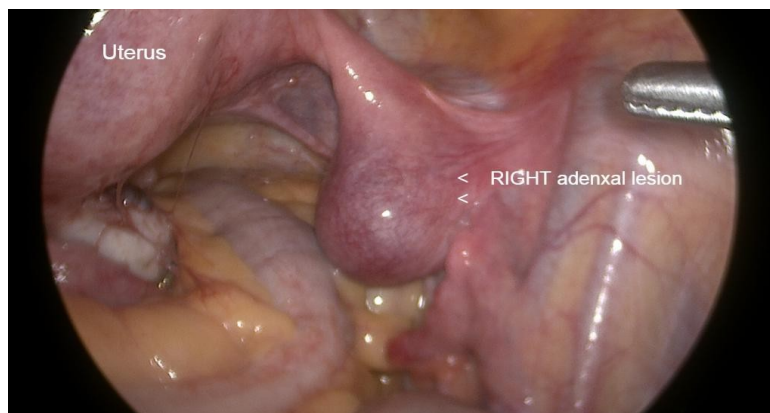


Figure 5: Right adnexal cystic structure adjacent to ovary, suspicious for tubal ectopic pregnancy.

Discussion

Although a suboptimal β -hCG rise is characteristic of ectopic pregnancy, up to 10% may show normal doubling. Therefore, biochemical trends alone cannot exclude ectopic implantation. When β -hCG exceeds the discriminatory zone without visualization of an intrauterine gestational sac, ectopic pregnancy must be strongly suspected. Early imaging is crucial. This case reinforces that ultrasound findings should take precedence when discordant with biochemical parameters.

Differential Diagnosis

- Viable intrauterine pregnancy
- Pregnancy of unknown location
- Early pregnancy loss
- Ovarian cyst / corpus luteum cyst
- Ovarian torsion
- Appendicitis

Management

The patient underwent laparoscopic right salpingectomy due to high β -hCG levels, presence of adnexal mass, and symptoms. Intraoperative findings confirmed tubal ectopic pregnancy.

Outcome and Follow-Up

Recovery was uneventful. She was discharged with advice for serial β -hCG monitoring and early ultrasound in future pregnancies.

Limitations

- Serum progesterone was not assessed.
- Left ovary was not visualized.
- Early ultrasound at 5 weeks was not performed.

Conclusion

A normal β -hCG rise cannot reliably exclude ectopic pregnancy. When ultrasound and β -hCG trends disagree, imaging findings hold greater diagnostic value.

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