Spontaneous Ovarian Hyperstimulation Syndrome in Failed Early Pregnancy: A Rarity

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ABSTRACT

Spontaneous ovarian hyperstimulation syndrome (s-OHSS) is a rare occurrence, particularly in the absence of assisted reproductive technology. This case report discusses a rare occurrence of spontaneous ovarian hyperstimulation syndrome (s-OHSS) in the context of a failed early pregnancy, emphasizing radiological findings and diagnostic implications. Clinicians and radiologists need to be aware of this rare entity, even when there is no history of ovulation induction. The report outlines the patient's clinical presentation, imaging studies, differential diagnoses, and relevant literature supporting this unusual manifestation of s-OHSS.[1–9]

Keywords: Spontaneous Ovarian Hyperstimulation Syndrome, Failed Early Pregnancy, Ultrasonography

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INTRODUCTION

Spontaneous ovarian hyperstimulation syndrome (s-OHSS) seldom presents in the context of a failed early pregnancy, making it an infrequent scenario in clinical practice.[1,3,4] This report aims to elucidate the radiological aspects and diagnostic challenges associated with OHSS in such contexts. The case presented underscores the vital role of radiological examinations in diagnosing and managing this rare complication.[1,2,5]

CASE REPORT

A 32-year-old female presented with abdominal distension, discomfort, and pain following a failed early pregnancy. The patient had no significant medical history of ovulation induction, hypothyroidism, or prior incidents of OHSS. Initial clinical evaluation revealed tenderness in the lower abdominal quadrant. Serum markers indicated elevated levels of estradiol and human chorionic gonadotropin (HCG). The patient's thyroid profile and serum prolactin levels were within normal limits.

Transvaginal ultrasound revealed bilateral enlarged ovaries (right ovary measured 4.28 x 6.58 cm; left ovary measured 3.37 x 5.10 cm) with numerous cystic spaces **(Figures 1 & 2),** the largest cyst measuring up to 4 cm in diameter, consistent with the diagnosis of OHSS.[6,7] Ascites was visualized in the pelvic cavity, with echogenic fluid. Doppler studies showed normal vascularity within the ovarian stroma **(Figure 3).** The endometrium was thickened and measured 16.3 mm **(Figure 4).**

DISCUSSION

The radiological findings in this case strongly suggest the manifestation of spontaneous ovarian hyperstimulation syndrome (OHSS) following a failed early pregnancy.[1,5,6] Transvaginal ultrasound exhibited bilateral enlarged ovaries with multiple cystic spaces and concurrent ascites, aligning with documented characteristics of spontaneous OHSS.[1,5-7] These findings underscore the pivotal role of radiological evaluations in diagnosing OHSS, particularly in cases associated with failed early pregnancies.[1,6,7]

The absence of a significant medical history or identifiable predisposing factors challenges the understanding of OHSS development in this patient.[8] OHSS typically arises from exogenous hormonal stimulation

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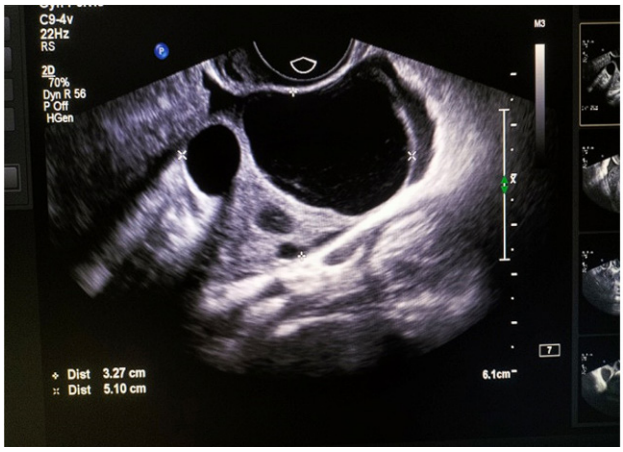

Figure 1&2. **Transvaginal ultrasound showing enlarged multicystic right ovary and left ovary respectively**

in assisted reproduction but can uncommonly occur spontaneously.[1,5,8] The pathophysiology underlying spontaneous OHSS, especially in the setting of failed early pregnancy, remains relatively unexplored and presents a diagnostic challenge.[5,8]

The distinctive radiological features observed in this case, despite the absence of predisposing factors, strongly support the diagnosis of spontaneous OHSS.[1,5,6,7] These findings played a crucial role in excluding alternative diagnoses, such as ovarian neoplasms or other causes of ascites, further emphasizing the significance of radiological assessments in confirming the diagnosis in such scenarios.[1,5,6,7]

Studies have highlighted potential variations in the pathophysiological mechanisms between spontaneous and iatrogenic OHSS, with spontaneous cases often presenting with distinct clinical and radiological characteristics.[5] This case adds to the understanding of spontaneous OHSS in failed early pregnancies, urging further research to elucidate the mechanisms behind its occurrence without identifiable predisposing factors.[5,8]

Additionally, magnetic resonance imaging (MRI) may offer supplementary information, although it's less commonly utilized due to the effective visualization provided by ultrasound and CT scans. Radiological assessments contribute significantly to the multidisciplinary approach in diagnosing and managing OHSS, aiding in therapeutic decision-making and patient monitoring.[9]

Further research focusing on advanced imaging modalities like diffusion-weighted MRI and contrast-enhanced ultrasound may offer enhanced sensitivity and specificity in diagnosing OHSS, potentially improving early detection and management outcomes.[10]

In summary, the radiological findings in this case significantly contribute to the diagnosis of spontaneous OHSS in the context of a failed early pregnancy. The absence of identifiable risk factors poses a challenge in understanding its pathophysiology, emphasizing the need for continued investigation into the mechanisms underlying spontaneous OHSS presentations in such cases.

Figure 3. **Right ovary showing normal flow on colour doppler**

Figure 4. **Transvaginal ultrasound showing uniformly hyperechoic thickened endometrium**

CONCLUSION

This case emphasizes considering spontaneous OHSS in the differential diagnosis of abdominal distension following a failed early pregnancy, even in patients without known predisposing factors. A high index of suspicion and radiological evaluations play a crucial role in diagnosing and differentiating OHSS from other pathologies.[1,6]

END NOTE

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