

Extraordinary Presentation of an
Uncommon Case for Thoracic Surgeons:
Ovarian Hyperstimulation SyndromeDeniz Gürer^{1*}, Rıza Serdar Evman¹, Erşan Demirag² and İrfan Yalçınkaya¹¹Department of Thoracic Surgery, Süreyyapaşa Chest Disease and Thoracic Surgery Education and Research Hospital, Turkey²Department of Gynecology and Obstetrics, Zeynep Kamil Obstetrics and Pediatrics Hospital, Turkey

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Abstract

An isolated unilateral pleural effusion as the only presentation of Ovarian Hyperstimulation Syndrome (OHSS) is very rare. Here, we report an unusual case with an isolated unilateral pleural effusion without ascites after *In-Vitro* Fertilization (IVF) by ovarian stimulation with a review of the literature.

Introduction

Ovarian stimulation by pharmacological agents has become the most common modality after introduction of *In-Vitro* Fertilization (IVF). Ovarian Hyperstimulation Syndrome (OHSS) is the one of Complications of this modality, presents clinically in a mild to severe form which includes life-threatening situation [1]. OHSS is rarely encountered situation for thoracic surgeons. This case presents an unusual case of OHSS with isolated unilateral pleural effusion and without ascites, after IVF by ovarian stimulation with urofollitropin and Human Chorionic Gonadotropin (hCG) combination

Case Presentation

A 35-year old woman was referred to our clinic from an obstetrics clinic, with severe acute dyspnea. Medical history revealed an IVF subsequent to ovulation induction with urofollitropin and hCG combination 14 days ago. There was no past history of any pulmonary disease, tuberculosis, asthma or thromboembolism. Gynecologist reported no ascites abdominal ultrasound evaluation, but pleural effusion on right hemithorax (Figure 1), suggestive of a pulmonary thromboembolism. On admission, heart rate was 118beats/min, oxygen saturation was 97% under 6 L/min support, and breath rate was 22 /min. There were no evidence of abnormal blood counts, biochemical analysis of pleural fluid was appropriated with transudate, and bacteriologic study was negative. She rapidly underwent a small-bore (8F) catheter thoracostomy, and sudden relief of symptoms was achieved. A total of 1700cc transudative effusion was evacuated. Concomitant hypoalbuminemia was replaced and raised to 3.0mg/dl from 1.8mg/dl. Catheter was removed and the patient was discharged on day 3, asymptotically.



Figure-1: Chest X-ray revealing right pleural effusion.

Discussion

OHSS is one of the iatrogenic, usually self-limited but rarely life-threatening complications of IVF (~33%) [2], and seen with an incidence of 2-3%. This complication typically occurs after administration of hCG or analogs [3]. OHSS manifested by fluid shift to third space results in ascites and pleural effusion in the severe forms. Although the etiology is unclear, a transient increase in vascular permeability of mesothelial surfaces has been suspected as the main reason, caused by vasoactive mediators released from induced ovaries. Typical clinical scenario includes protein-rich fluid shift from the intravascular to the 3rd space, resulting in pleural effusion, ascites, pulmonary edema, and hypoproteinemia. In addition, relative hemoconcentration and increased hormones of pregnancy causes alterations in intravascular coagulation cascade, leading to thromboembolism or death. Some degree of ascites is always present, but the occurrence of hydrothorax depends on the level of hypoproteinemia in the usual clinical scenario. Hereby we described an unusual case of OHSS where acute dyspnea developed on 14th day after IVF, revealing absence of intra-abdominal ascites but isolated pleural effusion. Our patient admitted by severe acute dyspnea with isolated right hydrothorax and treated by surgical procedure with catheter thoracostomy after thoracentesis.

Conclusion

In these cases, Physicians should keep in mind that dyspnea is not only a direct result of increased intra-abdominal pressure, but may be a complication of the medical procedure or the pregnancy itself. Low-dose chest X-ray should be included in workup for OHSS. When a pleural effusion is diagnosed at pregnant whom had practiced IVF, treatment may include drainage with thorax catheter. This drainage procedure is a safe and efficient method for the treatment of symptomatic pleural effusion [4]. Gynecologists and chest physicians should be more aware of OHSS in order to timely diagnosis and the management of high-risk pregnant patients.

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