

CASE REPORT

Severe ovarian hyperstimulation syndrome with triplets, pleural effusion and hepatic dysfunction: A rare presentation

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ABSTRACT

Severe ovarian hyperstimulation syndrome is an uncommon disorder emerging after in-vitro fertilization procedures. We report a case of severe OHSS post In-vitro fertilization with viable triplet pregnancy, right sided pleural effusion and associated hepatic dysfunction. A rare occurrence of this combination with severe presentation, and probable pathogenesis is discussed. [IJEM 2008;12(8): 51-52]

Key Words: In-vitro fertilization, Ovarian Hyperstimulation syndrome, triplet pregnancy, Hepatic dysfunction, Pleural effusion.

INTRODUCTION

Ovarian hyperstimulation syndrome (OHSS) is a serious complication of the luteal phase/early pregnancy, usually iatrogenic, after ovulation induction or ovarian stimulation in the context of intrauterine insemination and in vitro fertilization (IVF)(1). It is usually a self limiting disorder but may be more severe and persist longer than usual, if pregnancy is successful. The disorder has wide spectrum of presentation ranging from mild to severe form of OHSS. The incidence of severe OHSS, as per WHO is 0.2-1% of all stimulated cycles in assisted reproduction and is thus considered a relatively rare complication needing urgent medical attention(2). We report a 25 year old female, diagnosed polycystic ovarian disease, who developed OHSS after IVF for primary infertility. USG abdomen confirmed three gestational sacs with a mean gestational age of 7 weeks. This combination of severe form of OHSS in viable triplet pregnancy with right sided pleural effusion and hepatic dysfunction finds mention only a few times in medical literature, thus requiring documentation.

Case report

A 25 year old obese female presented with a history of oligomenorrhea since menarche and a hirsutism score of >8. The patient was married for 4 years and had primary

infertility due to polycystic ovary disease. She underwent In vitro fertilization (IVF) at some other centre and 3 days thereafter complained of nausea and post prandial fullness followed by progressive distention of abdomen and diffuse non colicky abdominal pain. In addition, patient had progressive breathlessness and constipation. She was referred to our hospital for further management.

On examination, patient was irritable, tachopneic, with a pulse of 110 bpm, BP of 90/60 mmHg with a significant postural drop. On admission, she weighed 65 kgs and had abdominal girth of 95 cms. Systemic examination revealed signs of right sided pleural effusion and ascitis. Hemogram showed leukocytosis with neutrophilia, and raised ESR. Biochemistry revealed transaminitis with normal serum bilirubin and serum albumin. Ultrasonography demonstrated bilaterally enlarged ovaries [Right Ovary volume-90 ml, Left ovary volume-104 ml], (Fig.1) ascites with three Gestational sacs having a mean gestational age of 7 weeks. Chest roentengram showed right sided pleural effusion (Fig. 2).

Patient was managed conservatively and started on i.v fluids. Body weight, abdominal circumference, input/output, serum electrolytes, ultrasonography and renal functions were closely monitored on daily basis. Patient reported increased dyspnea and the chest roentengram revealed right sided pleural effusion during hospital stay. Abdominal girth of the patient kept on increasing and abdominal paracentesis was done. About 2-3 liters of ascitic fluid was drained per day for three consecutive days. Patient's renal function remained normal during the hospital stay and she had euelectrolytemia. Low molecular

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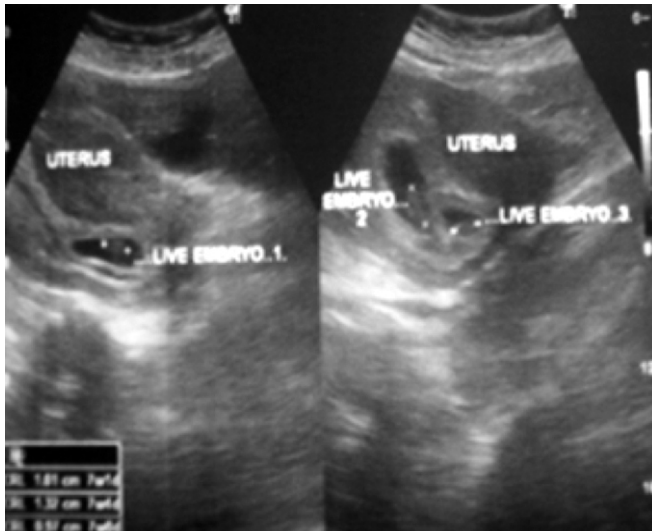


Figure 1: USG showing viable Triplet pregnancy of 7 weeks



Figure 2: X-ray Chest PA view showing right sided Pleural Effusion.

heparins were used for three days, withdrawn once the abdominal distention subsided and patient started to mobilize. She was discharged from the hospital after 7 days with documented and continued viable triplet pregnancy on ultrasonography.

DISCUSSION

OHSS is a rare and potentially life-threatening complication of controlled ovarian stimulation. It can be associated with severe morbidity and may even be fatal(1). Although the pathophysiology of this syndrome has not been completely elucidated, the underlying mechanism appears to be an increase in capillary permeability of mesothelial surfaces resulting in fluid leakage into the third space(3).

Among patients who have severe OHSS after IVF

treatment, the pregnancy rate and the rates of multiple gestations, miscarriage, prematurity, low birth weight, pregnancy-induced hypertension, gestational diabetes, and placental abruption are significantly higher than those reported previously for pregnancies conceived with the use of assisted reproductive techniques. The pathophysiological cascade of OHSS consists of neoangiogenesis and increased capillary permeability of the enlarged ovarian endothelial surfaces mediated by proangiogenic factors like Vascular Endothelial Growth Factor -VEGF(4). VEGF m-RNA expression in human leutinised granulosa cells is time and dose dependent on HCG, thus further establishing the role of VEGF in OHSS. VEGF is found in increased concentrations in serum, pleural fluid and ascitic fluid of OHSS patients(5). Prorenin, renin activity, active renin, and Ang II-ir levels were also observed to be much higher in blood, ascitic and pleural fluid than normal plasmatic laboratory norms(6).

Pleural effusion which usually occurs on the right side denotes severity of OHSS and occurs due fluid shift and intravascular volume depletion, causing massive ascites and hydrothorax(7). It is adduced that lymphatic drainage on the right is less as compared to left and the diaphragmatic hollows are greater on the right side. Thus suggesting that pleural effusion originates from the fluid shift from abdominal ascites(8).

In our case, OHSS of early and severe form was observed followed by successful triplet pregnancy. Biological findings of elevated liver enzymes were seen without electrolyte disturbances, hemoconcentration, and leucocytosis and hypercoagulable state. No complications like ovarian torsion, ovarian bleed, DVT, and PTE were observed during the hospital stay.

Physicians can reduce the risk of OHSS by monitoring FSH therapy to use this medication cautiously, and by withholding hCG medication. The patients with OHSS must be treated urgently and with multidisciplinary management. If left untreated, OHSS can result in serious health complications and even death.

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