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CASE REPORT

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Spontaneous ovarian hyperstimulation in singleton gestation

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Introduction

Ovarian hyperstimulation syndrome (OHSS) is almost exclusively associated with ovulation induction with gonodotrophins or occasionally, clompihene citrate [1]. In its most severe form (grades four and five) [2], there is a tremendous increase in ovarian size (greater than 10 cm diameter) with attendent abdominal distention, ascities, pleural effusion, and decreased intravascular volume. Severe ovarian hyperstimulation associated with a spontaneously conceived singleton pregnancy is extremely rare.

A review of literature revealed four previous reports of spontaneous OHSS associated with pregnancy [3]. Two of which were treated by elective pregnancy termination and the others were associated with either hypothyroidism or polycystic ovarian disease which are considered as risk factors for ovarian hyperstimulation [4]. We report a case of OHSS in a singleton gestation conceived after spontaneous ovulation without any of the above mentioned risk factors.

Case report

A 30 years old $G_2P_2A_1$ was hospitalized on 19th April, 2002 with severe abdominal pain, distention, vomiting and dyspnea. Her last menstrual period was on 10th January, 2005. The pain started 15 days prior to admission and had increased even after taking treatment. She did not have any medical or surgical disease and her gynecological history was unremarkable. Menarche commenced at the age of 12 ½ years. Subsequent menstrual cycles were regular with mild dysmenorrhoea.

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Ultrasonography (USG) done on 9th January, 2002 showed normal uterine cavity and adenexas (Figure 1) and the one done on 28th March, 2002 revealed 9.2 weeks gestation with bilateral enlarged ovaries (9 cm x 9 cm) showing multiple theca lutein cysts (Figures 2 a and b).

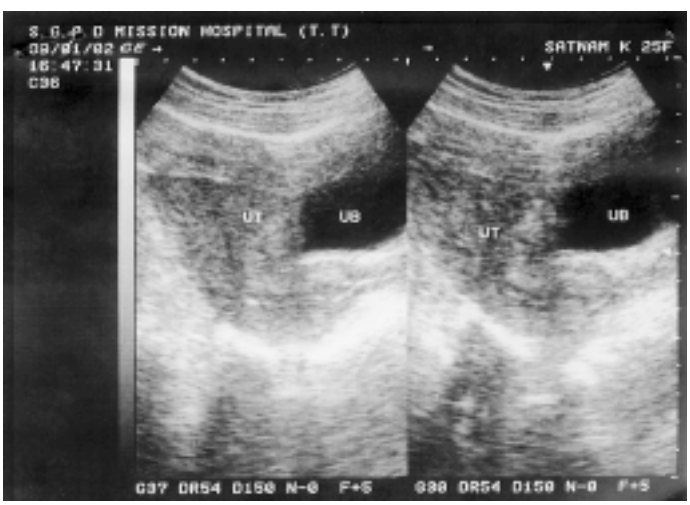

Figure 1. Sonography showing normal uterine cavity.

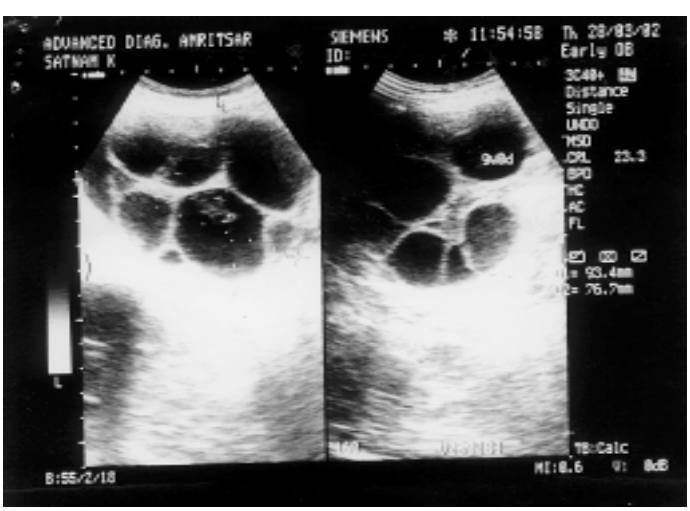

Figure 2a. Sonography showing bilateral enlarged ovaries (9 cm x 9 cm) with multiple theca lutein cysts.

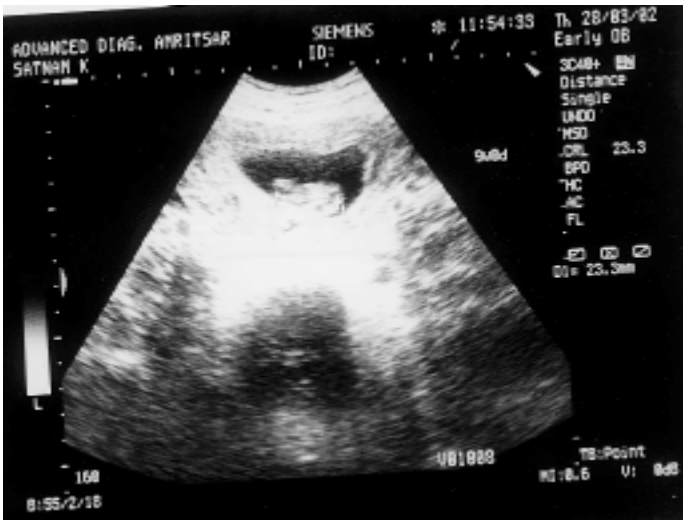

Figure 2b. Sonography showing single gestation sac (9.2 weeks).

Figure 3a. Sonography showing enlarged ovaries. Right ovary (22x16x1 cm) and left ovary (18x15x1 cm).

Figure 3b. Sonography showing 12 weeks 6 days gestation with ascitis.

She was well nourished and weighted 70.5 kg. She was in acute distress with moderate dyspnea and tachycardia (108/minute). Temperature and blood pressure were within normal limits. On physical examination the abdomen was moderately distended, tender and tense. The bowel sounds were normal. On pelvic examination the uterine size could not be made out but irregularly enlarged bilateral adenexal masses of 20 weeks gestation size could be palpated with difficulty. USG done on 15th April 2002 revealed 12 weeks 6 days pregnancy, bilateral enlarged multicystic ovaries with mild ascitis (Figures 3 a and b) and pleural effusion. Left ovary measured 18x15x10 cm and right one 22x16x11 cm. Both ovaries had multiple cysts of 10 to 65 mm diameter. Very few small solid areas were seen in the ovaries. Both ovaries were mobile. Liver and kidney were normal.

Investigations revealed – hemoglobin - 11.6 g/dL; hematocrit 49.3%; lucocytes 11,800/mL; serum – sodium 138 meq/L, potassium 4.6 meq/L, creatinine 0.8 mg/dL; fasting blood sugar 95 mg/dL; serum proteins 5.4 g/dL with albumin 3.2 g/dL. Liver function and thyroid function tests were within normal limits; 24 hours urinary output was 1075 mL. However hormone levels could not be done.

She was given plasma expanders (albumin), fluids and supportive therapy. She quickly responded to this line of treatment and was discharged after 8 days weighing 67 kg, and presenting the following reports - hemoglobin 10.1 g/dL, hematocrit 38.2%, serum sodium 136 meq/L and serum potassium 3.7 meq/L. At 18 weeks of gestation USG revealed regressed adenexal masses with no ascitis or pleural effusion and at 26 weeks, it revealed normal sized ovaries. Pregnancy proceeded normally and a healthy female baby was delivered vaginally at 40 weeks of gestation.

Discussion

In our cases OHSS occurred spontaneously in a singleton gestation. She did not receive any medication and no drugs were given for ovulation induction. Diagnosis was confirmed by complete resolution of ovarian hyperstimulation as demonstrated by clinical, ultrasonographic and other laboratory data. Olotunbosum et al [1] report spontaneous OHSS in four consecutive pregnancies in a patient with polycystic ovarian disease. Rosen and Lew [3] report a severe hyperstimulation syndrome in spontaneous singleton pregnancy. A similar case is also reported with hypothyroidism [2].

This condition is extremely rare but being potentially lethal in its severest form, if not managed properly, must be recognized in time to prevent drastic, avoidable and

sometimes mutilating interventions. There is a vast body of literature on the management of OHSS and pregnancy [5]. Treatment is conservative and aimed at maintaining intravascular volume and preventing hemoconcentration and hypovolemia, and their adverse consequences on coagulation and kidney function.

There is a proven beneficial effect of abdominal paracentesis in relieving respiratory distress. However our patient improved without it. Our case emphasizes the importance of thorough evaluation of all women with ovarian masses complicating pregnancy and the role of USG for diagnosis and follow up as it is very sensitive and a more accurate means of assessment of ovarian size than pelvic examination [6]. Transvaginal color doppler imaging allows better evaluation of complex intra-ovarian lesions, and ovarian torsion needing surgery.

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