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Pregnancy of Unknown Location: A Case Report and Review of the Literature

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Abstract

We present a case of pregnancy of unknown location with high serum βhcg levels. This case posed a diagnostic difficulty in the management of pregnancy of unknown location. The patient underwent two laparoscopic procedures to establish the diagnosis. The case highlights the importance of close surveillance of patients who present with pregnancy of unknown location.

Keywords: Pregnancy of unknown location; Diagnostic laparoscopy

Introduction

Management of Pregnancy of Unknown Location (PUL) has always been challenging. Expectant management is an option for clinically stable women with minimal symptoms and a pregnancy of unknown location [1]. Since there is always a possibility of ectopic pregnancy these women should be monitored with caution. The prevalence of ectopic pregnancy in PUL is 14-28% [2]. This is an interesting case of pregnancy of unknown location with serum βhcg levels above the discriminatory levels.

Case Report

A 27 yr old G3P2 presented to the early pregnancy clinic at 6 weeks gestation with lower abdominal pain and mild spotting per vaginum. Her serum βhcg level was 5574 iu/l and Transvaginal Scan (TVS) reported no evidence of intrauterine pregnancy with normal adnexae. The patient was admitted with a diagnosis of PUL and a diagnostic laparoscopy was done. On laparoscopy there was no evidence of an extrauterine pregnancy and the pelvis was normal. She was then followed up with serial βhcg levels as an outpatient. A repeat βhcg level in 48hrs was 6096 iu/l. A repeat TVS revealed an endometrial thickness of 14 mm, no intrauterine sac, normal ovaries and small area of mixed echogenicity suggesting possible early pregnancy. She was managed conservatively with monitoring of βhcg levels and ultrasound pelvis. The follow up TVS after a week showed no evidence of Intrauterine Pregnancy (IUP) and 16×19×15 mm hyperechoiec focal lesion in the left ovary. The serum βhcg level was 8015 iu/l. The patient continued to remain stable without any symptoms. She then had a second diagnostic laparoscopy and endometrial curettage. The laparoscopy showed no evidence of extrauterine pregnancy. The histology report from the curettings was consistent with products of conception. Her βhcg levels following the endometrial curettage dropped to 922 iu/l (Figure 1). The final diagnosis was a silent miscarriage which had presented in this unusual way.

Discussion

This case demonstrates the difficulty in managing cases of PUL. About 8-13% of women who present to the early pregnancy unit are classified as having a PUL [3-5]. Although conservative management is an option, there is always a possibility of missing an ectopic pregnancy especially with such high βhcg levels. βhcg levels are routinely used to monitor outcomes of PUL. Discriminatory zones of βhcg are defined as levels above which IUP must be visualised on ultrasound. There are various discriminatory zones based on the quality of the ultrasound machine, skill of the sonographer, the symptoms of the woman, presence of uterine fibroids and multiple pregnancy [1]. Varying the discriminatory zone does not significantly improve the detection of ectopic pregnancy in a PUL population [6]. Although βhcg titres are normally expected to double in 48 hrs this can vary according to the gestation [7]. When the rise or the fall in hCG is suboptimal [8-11], the most likely outcome is ectopic pregnancy. Approximately 71% of women with ectopic pregnancy have a rise in βhCG that is slower than the minimal rise for a viable pregnancy or a decline that is slower than the minimal rate of fall in spontaneous miscarriage [9]. However, failing PULs and 15% of normal pregnancies [12,13] will have an abnormal doubling time. Serum progesterone can be a useful adjunct when ultrasound suggests pregnancy of unknown location. In the presence of pregnancy of unknown location serum progesterone level less than 20nmol/l redicts spontaneous pregnancy resolution with a sensitivity of 93% and specificity of 94% [7]. Serum hCG and progesterone levels at defined times can be used to predict the immediate viability of a PUL, but cannot be used reliably to predict its location [5]. According to the Association of Early Pregnancy Units guidelines [8], if no intrauterine or ectopic pregnancy or retained products of conception are seen on transvaginal ultrasound and the woman is asymptomatic

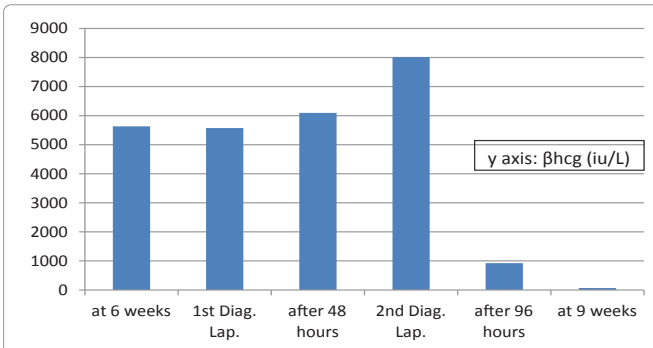

Figure 1: Graph demonstrating the βhcg levels with progression of pregnancy.

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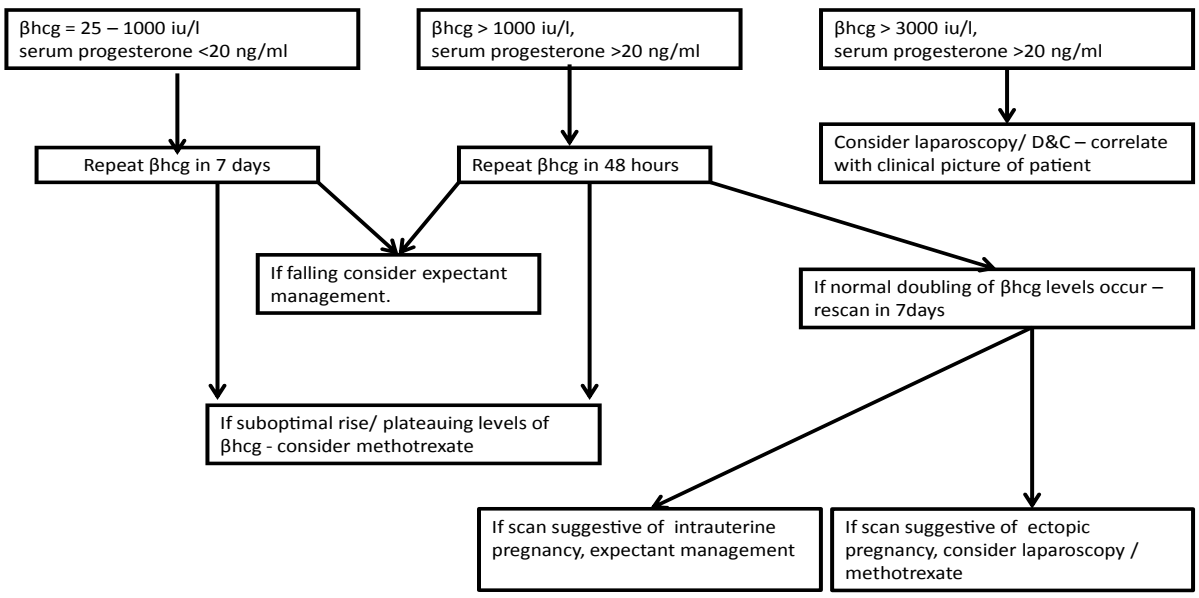

Figure 2: Management algorithm of a case of PUL.

at initial assessment, she can be managed conservatively. It is advisable to follow up with βhCG and transvaginal ultrasound assessments until the pregnancy is located accurately or intervention becomes necessary [14]. Women should be considered for active intervention if symptoms of ectopic pregnancy occur, serum βhcg levels rise above the discriminatory level or levels start to plateau [4,15]. D&C remains valuable to differentiate EP from nonviable IUP and to avoid misdiagnosis and unnecessary exposure to methotrexate. Low initial hCG values and ultrasound findings such as a thin endometrial echo complex and the presence of free fluid are associated with but are not diagnostic of an ectopic pregnancy [16]. Women should be followed up until the final pregnancy outcome is known which includes: failing PUL, intra-uterine pregnancy, ectopic pregnancy and persisting PUL [17]. We suggest a possible management algorithm for patients with unusual presentation (Figure 2).

In conclusion this case highlights the importance of cautious monitoring in case of PUL and timely intervention. Also clear information should be given to the women with PUL regarding the management, follow up and outcomes.

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