

## Intraligamentous Pregnancy Treated Successfully with Laparoscopic Surgery: A Case Report

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### ABSTRACT

Intraligamentous pregnancy or broad ligament pregnancy is a rare form of ectopic pregnancy. Here, we report a case of successful treatment of intraligamentous pregnancy with laparoscopic surgery. This case is of a 30 year old woman, gravida 4, para 1, abortus 2. Based on clinical observations, she was diagnosed with right adnexal ectopic pregnancy, and laparoscopic surgery was performed. During surgery, no abnormal signs were observed within the uterus, ovaries or fallopian tubes. However, there was a 1-2 cm mass with an abnormal colour in her right broad ligament. The contents of the mass were excised laparoscopically. Histological studies confirmed that the tissues in the mass were chorionic villi and that the final diagnosis was intraligamentous pregnancy.

**Keywords:** Intraligamentous, Pregnancy, Laparoscopic, Treatment

### INTRODUCTION

Intraligamentous pregnancy or pregnancy in the broad ligament is a rare form of ectopic pregnancy. It occurs in 1 per 300 ectopic pregnancies [1]. Although laparotomy is required in most instances, a few case reports describe laparoscopic excision of early small gestational sac [2]. Here, intraligamentous pregnancy successfully treated with laparoscopic surgery is presented.

### CASE PRESENTATION

A 30 year old woman, with an obstetric history, gravida 4, para 1, abortus 2 (one elective several years earlier, and one spontaneous two months before) and had no unusual personal or family clinical history. At 5 week, 5 day pregnant following spontaneous conception, she presented with slight bloody discharge. A transvaginal ultrasonography revealed an empty endometrial cavity. There was, however, a fetal sac in the right adnexal region. Serum  $\beta$ -human chorionic gonadotropin ( $\beta$ -HCG) level was 5878 mIU/ml. Based on clinical observations right adnexal ectopic pregnancy was diagnosed.

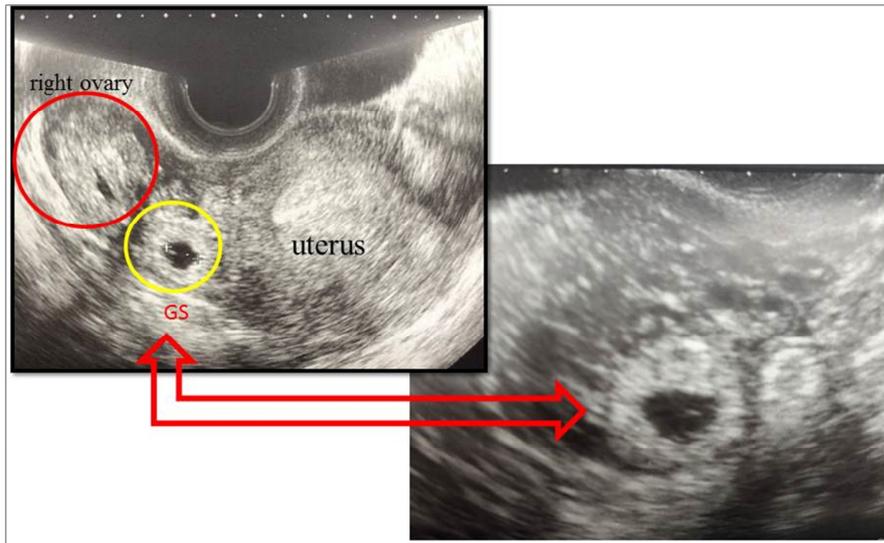
The patient underwent laparoscopy surgery. During surgery, no abnormal signs were observed within the uterus, ovaries or fallopian tubes. However, there was a 1-2 cm mass with an abnormal colour in her right broad ligament, immediately under the peculiar ligament and between the right ovary and the uterus. An incision at the surface was performed and chorionic villi-like structures were observed. The contents of

the mass were excised laparoscopically. The patient recovered well and was discharged based on clinical observations, but failed to attend follow-up appointments.  $\beta$ -HCG levels were 2457 mIU/ml and 356 mIU/ml on the first and fourth post-operative days, respectively. Histological studies confirmed that the tissues in the mass were chorionic villi and that the final diagnosis was intraligamentous pregnancy (**Figures 1-3**).

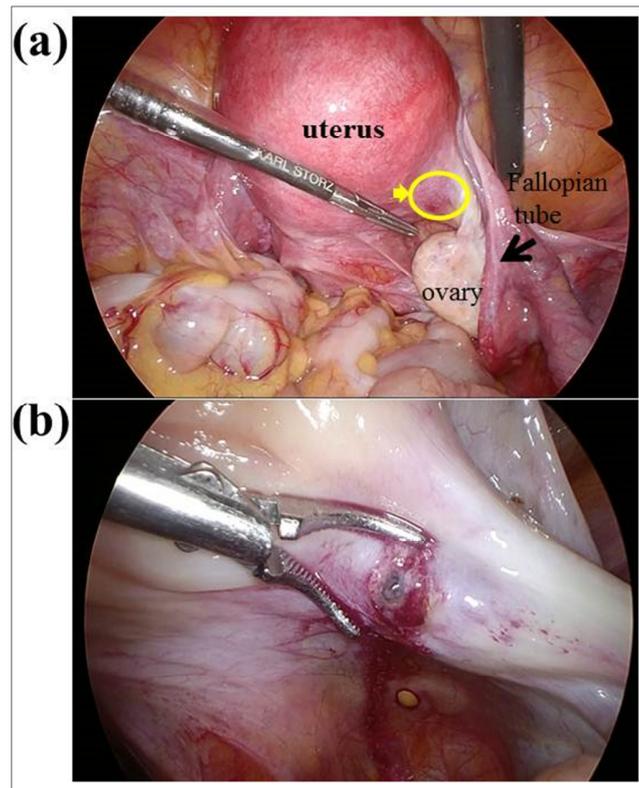
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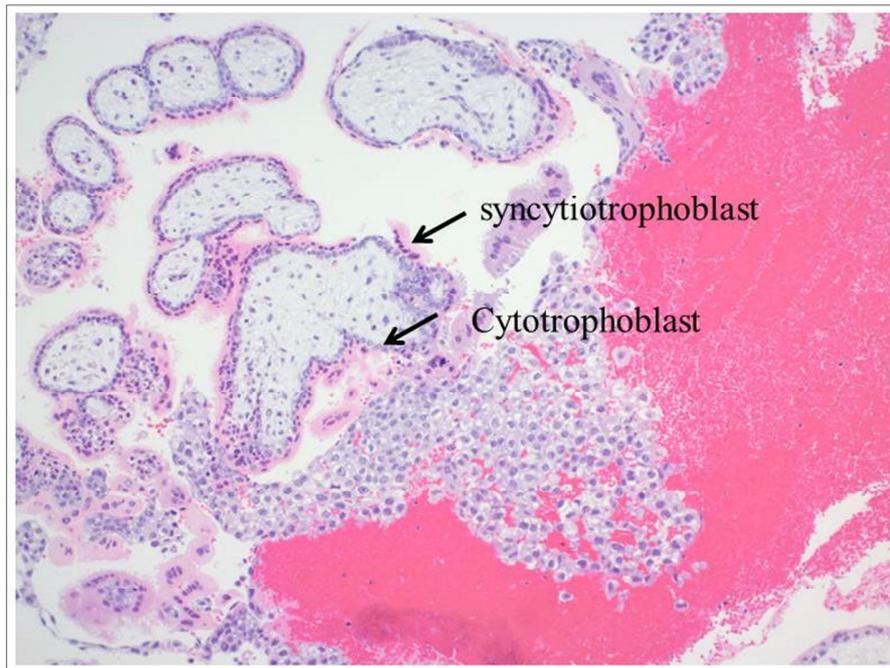
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**Figure 1.** A transvaginal ultrasonography revealed an empty endometrial cavity. There was a gestational sac (GS) in the right adnexal region.



**Figure 2.** No abnormal signs were observed within the uterus, ovaries or fallopian tubes. However, there was a 1-2 cm mass with an abnormal color in her right broad ligament, immediately under the peculiar ligament and between the right ovary and the uterus (**Figure 2a**, show as the yellow arrow and circle). An incision at the surface was performed, and chorionic villi-like structures were observed (**Figure 2b**).



**Figure 3.** Histological studies confirmed that the tissues in the mass were chorionic villi.

#### DISCUSSION AND CONCLUSION

This case was an intraligamentous or broad ligament pregnancy that was diagnosed as adnexal ectopic pregnancy by ultrasonography before surgery.

A broad ligament pregnancy usually results from trophoblastic invasion of tubal pregnancy through the tubal serosa and into mesosalpinx, with secondary implantation between the leaves of broad ligament [3]. It also occurs if a uterine fistula develops between endometrial cavity and the space between the leaves of the broad ligament or following a spontaneous separation of an old caesarean section scar, after a uterine perforation during a therapeutic or elective abortion or after either subtotal or total hysterectomy [3]. In this case, her elective abortion history might be the cause for this intraligamentous pregnancy, although we did not confirm the presence of a uterine fistula.

Clinical findings and management of intraligamentous pregnancy mirror those for abdominal pregnancy. Early diagnosis is essential and critical, because a catastrophic complication can occur to separation of placenta at any stage. The rate of maternal mortality has been reported to be as high as 20% and the perinatal mortality rate ranges between 40-95% [4,5]. An ultrasound is the most effective method for diagnosing an abdominal pregnancy and a magnetic resonance imaging (MRI) examination adds to diagnostic accuracy [6]. Surgical management is the preferred treatment choice in patients with broad ligament pregnancy [7] and surgical intervention is recommended as soon as a diagnosis is established [6].

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