CORNUAL PREGNANCY TREATED WITH DILATATION AND CURETTAGE UNDER LAPAROSCOPIC GUIDANCE: A REPORT OF TWO CASES

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SUMMARY

Objective: Cornual pregnancy must be differentiated as either angular pregnancy or interstitial pregnancy. Angular pregnancy may develop without incident or abort into the uterine cavity. In contrast, interstitial pregnancy always ruptures with potentially lethal results. Early diagnosis of angular pregnancy and interstitial pregnancy is critical, so that appropriate management can be instituted.

Case Reports: Two pregnant women presented with left pelvic pain and vaginal spotting. Ultrasonography identified left cornual pregnancy and both underwent dilatation and curettage (D&C) under laparoscopic guidance. During surgery, the angular pregnancy in a bicornuate uterus remained asymptomatic, but the interstitial pregnancy resulted in heavy bleeding from the uterus. However, hemostasis was achieved after cornual resection.

Conclusions: Our experience showed that D&C is an ideal alternative to conventional invasive surgery for angular pregnancy. However, it may be less suitable for interstitial pregnancy because of the potential for bleeding, leading to the need for cornual resection. [Taiwanese J Obstet Gynecol 2004;43(4):229–231]

Key Words: angular pregnancy, cornual pregnancy, interstitial pregnancy

Introduction

Cornual pregnancy refers to pregnancy in which the gestational sac and fetus are located just medial to the uterotubal junction in the angle of the uterine cavity. Rupture usually occurs later than tubal pregnancy and has a higher associated mortality [1]. Cornual pregnancy encompasses the often-confused angular and interstitial pregnancies. The differential diagnosis is based on the position of the gestational enlargement relative to the round ligament. In angular pregnancy, the gestational enlargement is medial to the round ligament, whereas in interstitial pregnancy, it is lateral to the round ligament [1]. These are always identified as cornual pregnancies on ultrasound examinations. However, angular pregnancy may be terminated using simple suction curettage. In contrast, it is necessary to terminate interstitial pregnancy by laparoscopic surgery, hysteroscopy or cornual resection.

Case Reports

Case 1
A 30-year-old female, gravida 2, para 1, with a prior obstetric history of one cesarean delivery, presented with abdominal cramps over the left lower quadrant and intermittent vaginal bleeding at 9 weeks’ gestation. Ultrasonography identified a left cornual pregnancy in
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a bicornuate uterus (Figure 1A). Laparoscopy allowed a
definite diagnosis of left angular pregnancy, based on
the enlarged angle of the uterus medial to the round
ligament (Figure 2A). Dilatation and curettage (D&C)
was performed under laparoscopic guidance. The
amount of operative blood and conceptus was about
200 mL. The patient remained asymptomatic after
surgery and was discharged on the third postoperative
day. Postoperative follow-up including transvaginal
sonography was uneventful and menstruation resumed
2 months later.

Case 2
A 26-year-old woman, gravida 1, para 0, underwent
elective D&C at a clinic based on a misdiagnosis of ear-
yly intrauterine pregnancy. She complained of left pelvic
pain and vaginal spotting 2 weeks later. Ultrasonography
showed a cornual pregnancy with about 2.2 mm of
myometrial wall surrounding the gestational sac (Fig-

ure 1B). Based on the impending rupture of the cornual
pregnancy, laparoscopy was performed. Under laparo-
scopic examination, a left interstitial pregnancy charac-
terized by an enlarged uterine angle lateral to the round
ligament was noted (Figure 2B). We attempted to per-
form a D&C. Unfortunately, massive bleeding of about
500 mL was noted within a few minutes. Hemostasis
was achieved after exploratory laparotomy with cornual
resection. The patient was discharged on the fifth
postoperative day without incident. Postoperative
follow-up including transvaginal sonography was
uneventful and menstruation resumed 1 month later.

Discussion
Cornual pregnancies, arising from implantation of the
embryo in the uterine angle, can produce a range of
symptoms, outcomes and complications; they must be
differentiated as either angular or interstitial pregna-
cy. Angular pregnancy may develop without incident or

Figure 1. Transverse view. (A) A left angular pregnancy in a
bicornuate uterus at 9 weeks' gestation has a sac separated
from the decidualized endometrium of the two endometrial
cavities. The thinnest part of the myometrium surrounding the
sac is 5.2 mm thick. (B) An interstitial pregnancy has a
chorionic sac 1.39 cm from the very end of the uterine cavity.
The thinnest part of the myometrial layer surrounding the sac
is only 2.2 mm thick.

Figure 2. Laparoscopic image. (A) An angular pregnancy is
characterized by gestational swelling over the left lateral angle
of the bicornuate uterus and displaces the round ligament re-
flection laterally. (B) An interstitial pregnancy is characterized
by gestational swelling over the left lateral angle of the uterus
with displacement medial to the round ligament.
aborted into the uterine cavity. In contrast, interstitial pregnancy always develops severe complications, sometimes even uterine rupture with potentially lethal results [1].

Distinguishing an angular pregnancy from an interstitial pregnancy is difficult on the basis of ultrasonographic findings alone. The ultrasonographic criteria for an angular pregnancy are a gestational sac that is not adjacent to the midline endometrial echo and that expands towards the midline of the uterine cavity, yet maintains its angular location and with placental implantation on the lateral wall [2]. In contrast, in an interstitial pregnancy, the chorionic sac is seen separately and located more than 1 cm from the very end of the uterine cavity, with a thin myometrial layer surrounding it [3]. Prior to surgery, the differential diagnosis of cornual pregnancy is frequently difficult. Laparoscopy is necessary when ultrasonography fails to determine the position of gestational enlargement relative to the round ligament. Grossly, the gestational sac in angular pregnancy is usually medial to the uterotubal junction and round ligament, as opposed to lateral in an interstitial pregnancy [1]. In both cases, women are vulnerable to develop fatal bleeding, uterine rupture or hysterectomy. Angular pregnancy usually develops or aborts into the cavity, which results in a better outcome than interstitial pregnancy [2]. Meticulous laparoscopy is both a diagnostic tool and effective therapy for cornual pregnancy, allowing for a shorter hospital stay, less physical stress, a lower risk of adhesion formation and reduced risk of fertility impairment. Laparoscopy is helpful not only to prevent uterine rupture under suction curettage with hysteroscopy or soft cannula vacuum, but also to take advantage of surgical intervention [4]. Direct injection or additional postoperative treatment with methotrexate has been reported to successfully treat cornual pregnancy, but there are uncertain complications including persistent pelvic pain, persistent trophoblastic tissue and long-term observation [3,4].

In our cases, both patients underwent simple suction curettage under laparoscopic assistance rather than direct hysteroscopic and laparoscopic surgery, which may cause more incident traumatic injury and need more skillful practice. In the first case, laparoscopy provided a diagnosis of early angular pregnancy by allowing visualization of lateral distension of the uterus and lateral displacement of the round ligament. The confirmed diagnosis may guide physicians to make a choice of conservative surgery instead of invasive surgery or hysterectomy. An interstitial pregnancy may also be treated the same way. In the second case, the patient suffered profuse uterine bleeding after suction curettage, which was too late for laparoscopic surgery. Laparotomy with cornual resection is indicated in emergency situations, for hemostasis.

This paper reviews the definition and diagnosis of angular and interstitial pregnancy and evaluates the conservative management of these conditions. Interstitial pregnancies may be refractory to conservative approaches, eventually requiring cornual resection or laparoscopic surgery. Interstitial pregnancy requires an approach that takes into account the potential risks of bleeding and failure of relatively conservative surgery. Transvaginal ultrasound and resumptive menstruation in postoperative follow-up is needed to confirm complete operation.

References