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The Conservative Management of Anembryonic Pregnancies and Embryonic Death

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ABSTRACT

Objective To study the outcome of the conservative management of anembryonic pregnancy and embryonic death in a 4-week period.

Design Descriptive study.

Setting Department of Obstetrics and Gynecology, King Chulalongkorn Memorial Hospital.

Methods A prospective descriptive study was performed in women with ultrasound diagnosis of anembryonic pregnancy or embryonic death (CRL ≥ 5 mm.) who chose to have conservative management. The patients who met inclusion criteria were followed up weekly up to 4 weeks or until spontaneous abortion occurred. The data on the medical, gynecologic and obstetric history, symptoms of abdominal pain and vaginal bleeding, gestational age at diagnosis and sonographic findings were recorded at first visit and ultrasound scans were repeated weekly up to 4 weeks or until spontaneous abortion was diagnosed. A D&C was done when spontaneous complete abortion had not occurred after a complete 4-week follow up or whenever heavy bleeding, severe abdominal pain, or incomplete abortion was encountered or when the patient desired to undergo D&C. The data were analyzed by means of descriptive statistics.

Result Eighty-seven women met inclusion criteria. Six cases dropped out because of anxiety and inconvenience to follow up and one case was excluded because the diagnosis of molar pregnancy was made after a 3-week follow up. The remaining 80 women were completely followed up for a four-week period or until spontaneous abortion occurred. Thirty-eight women (47.5%) had anembryonic pregnancy and forty-two (52.5%) women had embryonic death. Spontaneous abortion occurred in 64 out of 80 cases (80%) within a four-week period. Among these 64 spontaneous abortions, 35 cases (43.75%) were spontaneous complete abortion and 29 cases (36.25%) were spontaneous incomplete abortion. The highest rate of spontaneous abortion occurred within the first week. There was no serious complication among subjects who were conservatively managed.

Conclusion The conservative management might be feasible for anembryonic pregnancy and embryonic death. The highest rate of spontaneous abortion occurred in the first week, which may be suggested as a "waiting-period" after the diagnosis of anembryonic pregnancy or embryonic death is made.

Key words: Anembryonic pregnancy, embryonic death, expectant management

Early pregnancy failure or non-viable pregnancy is a term used to describe the conditions of anembryonic pregnancy and embryonic death, both of which can be clearly diagnosed by means of transvaginal ultrasound. This condition is a common complication in first-half pregnancy, and the incidence of up to 44.5% of patients with bleeding in first half of pregnancy has been recently reported.[1]

Surgical evacuation of the uterus has been the treatment of choice for early pregnancy failure.[2] The primary benefit of surgical treatment is the rapid completion of uterine evacuation. Since an early pregnancy failure is a quite common complication, the surgical treatment of this condition has become a significance workload to gynecologists. Besides, surgical management of non-viable pregnancies carries a small but real risk of morbidity and mortality to the patient.[3] It is not only associated with the risk of anesthesia, hemorrhage, infection, perforation and psychological trauma but also entails cost. Because a substantial number of early pregnancy failure would be able to resolve spontaneously,[4] surgical treatment is sometimes unnecessary.

Recently, it has been proposed that expectant management and medical management can be used in early pregnancy loss.[5-8] The goal of expectant management is to allow spontaneous complete abortion to occur in order to avoid the risks of surgery. A randomized study comparing expectant and surgical management of anembryonic pregnancy and embryonic death conducted by Nielsen and Hahlin[7] demonstrated that there was no need of surgical or medical management in 80% of cases managed expectantly.

The aim of this study is to confirm in our population whether conservative management is feasible for anembryonic pregnancy and early pregnancy failure and to define optimal waiting period for spontaneous abortion of pregnant women who were sonographically diagnosed as early pregnancy failure, either anembryonic pregnancy or embryonic death.

Materials and methods

This was a single center observational study at King Chulalongkorn Memorial Hospital. The Ethics Committee of the Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand approved the study. The population studied was all pregnant patients who underwent transvaginal ultrasound under various indications such as vaginal bleeding in the first trimester, uncertain LMP, abdominal pain, etc, at The Division of Maternal-Fetal Medicine, Department of Obstetrics and Gynecology, Faculty of Medicine, Chulalongkorn University.

An Aloka SSD 2000 scanner (Aloka Ltd, Tokyo, Japan) with a 5 MHz vaginal transducer was used for all scans. B-Mode imaging was used to evaluate the gestational sac size, the presence or absence of the embryo, the crown-rump length and the presence or absent of cardiac activity in case of seen embryonic pole.

All pregnant women confirmed by urine pregnancy test, with gestational age of less than 20 weeks underwent transvaginal ultrasonographic study by one of the authors (VB under attendance of SP or UB). The diagnosis of anembryonic pregnancy was made when a mean gestational sac diameter was ≥18 millimeters without embryonic pole. An embryonic death was defined as the presence of an intrauterine gestational sac containing an embryo of CRL ≥ 5 millimeters without cardiac activity. The patients with the diagnosis of anembryonic pregnancy or embryonic death were counseled by one of the authors (VB, SP, or UB) regarding the diagnosis and possibilities in

management of the condition, either a conventional surgical management (dilatation & curettage) or a conservative management with a four-week follow-up period. The potential risks and benefit of each method was counseled. The patients who chose the conservative management had an informed consent signed and were recruited into the study.

The data on the medical, gynecologic and obstetric history, symptoms of abdominal pain and vaginal bleeding, gestational age at diagnosis and sonographic findings were recorded at the first visit. The patients underwent repeated scans weekly and the sonographic findings were recorded. On each visit the patients were asked about the symptoms such as amount of bleeding and passage of conceptive tissue per vagina, these data were added into the record. When the patients passed conceptus, the diagnosis of complete abortion was made by a sonographic finding of endometrium thickness of < 10 millimeters[9] with a clear midline echo. The diagnosis of incomplete abortion was made by either clinical findings of open cervical os with bleeding and retained conceptus or a sonographic finding of endometrium thickness > 10 millimeters without midline echo.

A D&C was done when spontaneous complete abortion had not occurred after a complete four-week follow up or whenever attending gynecologists stated heavy bleeding, severe abdominal pain, or incomplete abortion or when the patients desired to undergo D&C.

The patient was excluded from the study if she had history of bleeding tendency; unstable vital signs needed immediately surgical treatment or inability to follow up.

Results

From December 1999 to April 2001,eighty-seven patients met the entry criteria, 41 patients (47.1%) had anembryonic pregnancies and 46 patients (52.9%) had embryonic death. One patient was excluded. She had an initial diagnosis of anembryonic pregnancy with a small empty sac. She developed hyperemesis during the second visit without clearly changing sonographic appearance. On the third visit, transvaginal ultrasound showed multiple vesicles within the uterine cavity. The serum β-hCG was 14,872 units. The diagnosis of molar pregnancy was made and the patient was admitted, treated and followed at the Mole Clinic.

There were 6 dropout patients, two cases of anembryonic pregnancy at 2 and 3-week period respectively and four cases of embryonic death, two cases at 1-week follow up and the other two cases at 2-week follow up. A total of 80 cases were followed until spontaneous abortion occurred or until a complete 4-week period was met. The characteristics of women in this study are shown in Table 1

Table 1. Baseline characteristics (n=86)

Age	mean±S.D.	28.25±6.25
	median(range)	28(15-43)
Para	mean±S.D.	0.65±0.73
	median(range)	1(0-3)
GA by LMP	mean+S.D.	12.24+3.30
	Median(range)	17(4-21)
History of past pregnancy n(%)	Vaginal delivery	37(43)
	Abortion	27(31.4)
	curettage	8(20.9)
Presenting symptoms n(%)	No symptoms	4(4.65)
	Bleeding	44(51.16)
	Abdominal pain	1(1.11)
	Bleeding and pain	37(43.02)

Within the complete 4-week follow-up period, spontaneous abortion occurred in 64 out of 80 patients (80%), 35 patients (43.75%) had spontaneous complete abortion whereas 29 patients (36.25%) had spontaneous incomplete abortion (Table 4).

Table 2. Occurrence of spontaneous abortion in the complete 4-week follow-up period in anembryonic pregnancy and embryonic death (excluding 6 dropout patients) n=80

Diagnosis	Results				
	no abortion	Spontaneous abortion	Spontaneous complete abortion	Spontaneous incomplete abortion	total
Anembryonic pregnancy	8	30	14	16	38
Embryonic death	8	34	21	13	42
All (%)	16 (20%)	64 (80%)	35 (43.75%)	29 (36.25%)	80 (100%)

The number of patients having spontaneous abortion in each week is shown in Table 5. Spontaneous abortion occurred in 45 of 80 patients (56.3%) within the first week. Among the 45 spontaneous abortions, 28 cases (35%) completely aborted whereas the remaining 17 cases (21.3%) had incomplete abortion and underwent D&C. At the second, third and fourth week of follow-up, there were some additional patients with spontaneous abortion as shown in table 5. Percentage of spontaneous complete and incomplete abortion occurred in each week is shown in figure 1.

Table 3. Number of patients having spontaneous abortion occurred in the first, second, third and fourth week follow-up period (n=64)

Results	Follow-up period				Total
	Week 1	Week 2	Week 3	Week 4	(4-week period)
Spontaneous complete abortion	28	3	4	0	35
Spontaneous incomplete abortion	17	4	5	3	29
Total spontaneous abortion	45	7	9	3	64

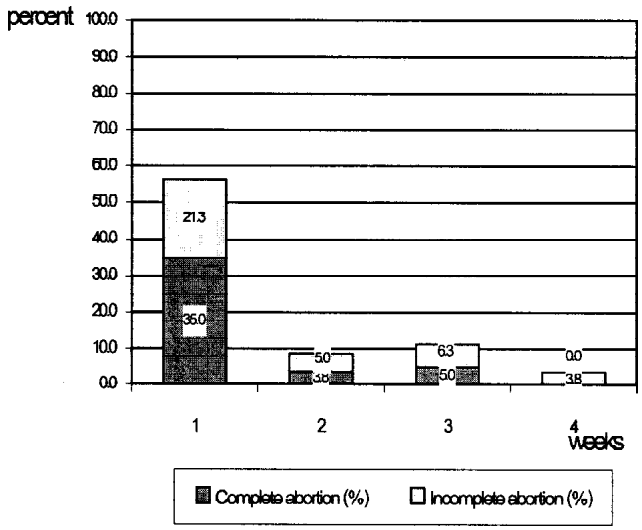

Fig. 1. Percentage of spontaneous complete and incomplete abortion occurred in each week.

The highest incidence of spontaneous abortion occurred in the first week and the incidence increased gradually for each week up to the fourth week as shown in figure 2. Rate of spontaneous incomplete abortion increased weekly in the same way as observed in total spontaneous abortion, but in spontaneous complete abortion, the rate was not increase in the fourth week.

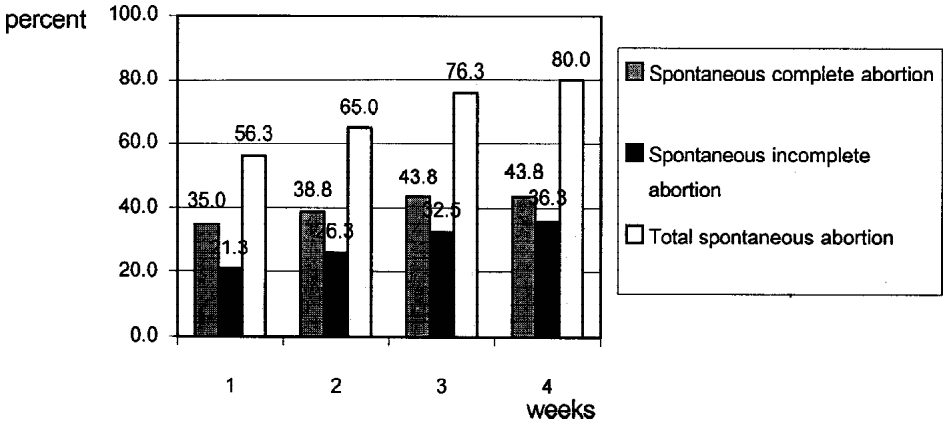

Fig. 2. The cumulative figure of percentage of spontaneous abortion.

A patient with anembryonic pregnancy had spontaneous incomplete abortion after the 2-week visit. She underwent D&C and had a high fever with lower abdominal pain and foul-smell discharge 2 days after D&C. She was treated with intravenous antibiotics in a private hospital and the conditions resolved.

Discussion

The majority of women diagnosed as anembryonic pregnancy and embryonic death still undergo a D&C with the aim of avoiding potential complications such as bleeding, pain and infection. However, D&C is not without complications and it does appear to affect future fertility. There is increasing evidence that many women with early pregnancy failure will undergo spontaneous complete abortion within acceptable period of time.[7]

This study aimed to outline the natural history of spontaneous abortion in anembryonic pregnancy and embryonic death. The data from this study have shown that a spontaneous abortion occurred within an acceptable period of time.

The spontaneous abortion rate was 80% within a 4-week waiting period, which was complete abortion in 43.75% and was incomplete abortion in 36.25% of cases. The rate of spontaneous complete abortion (43.75%) is less than that reported by the study of Schwarzler, et al.[9] (84%), in which incomplete abortion was further expectantly managed until a 4-week period was completed. In our study, which was an observational one, D&C was performed according to the judgement of the attending gynecologist when the diagnosis of incomplete abortion were made in order to avoid potential complications such as bleeding or pain. However, surgical procedures might not be the only treatment of choice for incomplete abortion in every case. As Sairam, et al.[10] showed a 96% success rate of expectant management in incomplete abortion without serious complications. A further study regarding expectant management of incomplete abortion may be conducted in order to avoid unnecessary surgical procedures.

Considering that the highest rate of spontaneous abortion occurred in the first follow up week, an expectant period of one week might be justified. Nevertheless, our results suggest that waiting period of more than 3 weeks yields minimal benefit since there was no additional cases of spontaneous complete abortion occurred. Of noted is that there was no serious complication occurred during expectant management of early pregnancy failure in our study.

Results of this study suggest that conservative management is feasible and may be an alternative method in the women with early pregnancy failure. This data might be benefit in counseling the patients regarding the “waiting-period” when “wait and watch policy” was chosen. We suggest the waiting-period may be at least one week and should not be more than 3 weeks, because there were few additional cases of spontaneous abortion occurred in the fourth week.

Of noted in this study is that the patients were recruited when the patients had clinical symptoms or the ultrasonographic findings showed an anembryonic pregnancy or embryonic death. Since it is impossible and it also is not clinically useful to determine the exact time of embryonic death, this study carries a weak point in patient recruitment. Further larger clinical study in short and long term complications, psychological effect, patients’ acceptance, and factors promoting successful conservative management should be investigated.

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