

Case Report

## Lithopedion

Chia-Ming Chang<sup>1</sup>  
Ken-Jen Yu<sup>1,3,4</sup>  
Jiin-Jou Lin<sup>1</sup>  
Ming-Huei Sheu<sup>2,3,4</sup>  
Cheng-Yen Chang<sup>2,3,4</sup>

<sup>1</sup>Department of Obstetrics and Gynecology;

<sup>2</sup>Department of Radiology, Taipei Veterans General Hospital; and

<sup>3</sup>National Yang-Ming University School of Medicine; and

<sup>4</sup>National Defense Medical Center, Taipei, Taiwan, R.O.C.

Lithopedion is a rare obstetrical outcome of an undiagnosed and untreated advanced abdominal pregnancy, mostly found incidentally. We present a case of lithopedion. In a 76-year-old female suffering from cervical neoplasm, total abdominal hysterectomy was performed for the lesion and the lithopedion was found incidentally. The patient's history was unremarkable, and laboratory tests were normal. The patient recalled having experienced a severe abdominal pain about 50 years before. Her physician had felt "a benign tumor" in her pelvis at that time, indicating that the stone child had resided in the maternal peritoneal cavity for 50 years. [*Chin Med J (Taipei) 2001;64:369-372*]

### Key Words

abdominal pregnancy; ectopic pregnancy; lithopedion

The formation of a stone child, or lithopedion, is a very rare occurrence in cases of abdominal pregnancy. Abdominal pregnancy is typically the result when the placenta is able to reestablish its blood supply within the peritoneal cavity after a ruptured tubal or uterine pregnancy. Several conditions are necessary for the formation of a lithopedion: (1) survival of the fetus for over three months; (2) sterility of the fetus; (3) failure of medical detection; (4) presence of conditions favorable for the deposition of calcium.<sup>1</sup> Most lithopedions are found incidentally.<sup>1,2</sup> No laboratory tests or typical symptoms are currently able to make the diagnosis of a lithopedion.

### Case Report

A 76-year-old female, gravida 2, para 2, was ad-

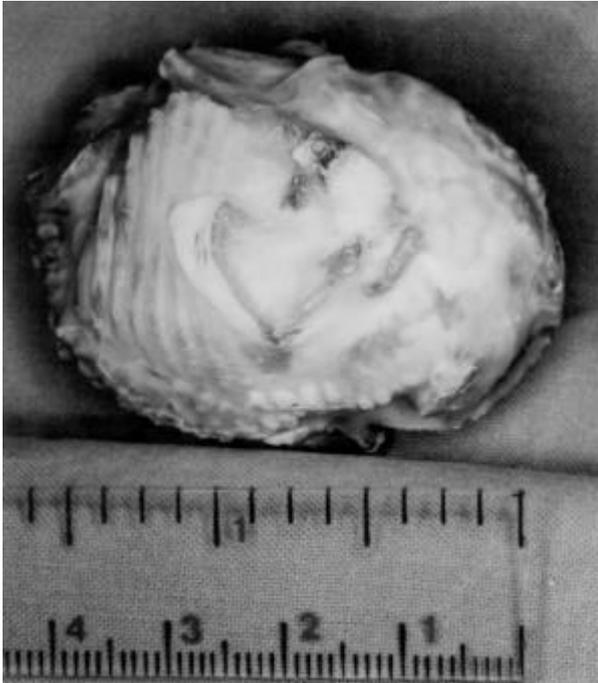
mitted to our hospital for surgical intervention for severe dysplasia of cervix. A cervical intraepithelial neoplasia lesion had been found by Pap smear at a clinic, and she visited our hospital for further evaluation. The pathological results of colposcopic biopsy and conization of cervix revealed a cervical intraepithelial neoplasia III lesion. The margin of resection was not free of tumor, so the patient underwent abdominal hysterectomy on Dec. 31, 1999.

Exploration into the peritoneal cavity found a hard mass densely adhered to the surrounding tissue. While the operator attempted to dissect the mass from the surrounding tissue, the mass was incidentally cut open to find the lithopedion within. The removed inner mass was in a calcified, oval shaped form measuring 7 × 4 × 4 cm and weighing 20 gm. Skeletal elements, including head, ribs and even extremities could be identified apparently (Figs. 1 and 2). The femoral length of

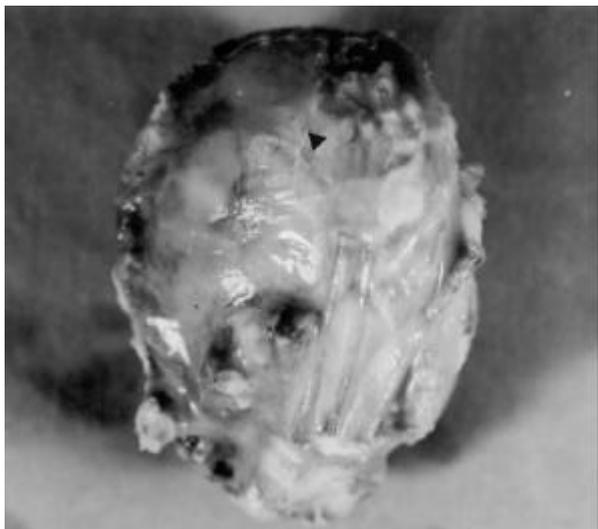
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Correspondence to: Ken-Jen Yu, MD, PhD, Department of Obstetrics and Gynecology, Taipei Veterans General Hospital, 201, Sec. 2, Shih-Pai Road, Taipei 112, Taiwan. Fax: +886-2-2873-4101; E-mail: kju@vghtpe.gov.tw

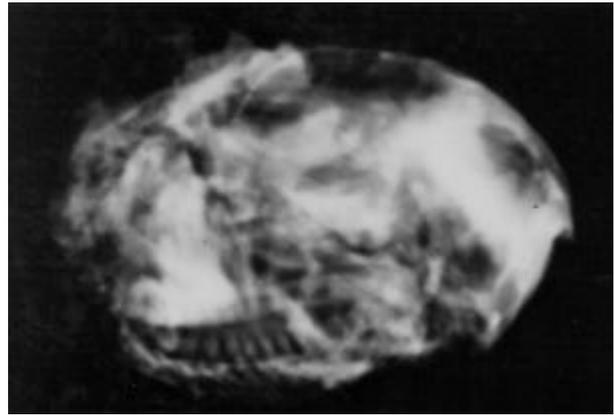
the lithopedion measured 31 mm, equivalent to a fetus at 20th weeks' gestation. CT scan studies were unable to identify any organs due to complete calcification of the fetus (Fig. 3).



**Fig. 1.** Lithopedion lateral view. The scapular bone, spine and ribs can be clearly identified.



**Fig. 2.** Lithopedion front view. The radial, ulnar and wrist bones can be clearly identified, along with the fingers of the left hand. The left hand ▲ is resting on the head of the fetus.



**Fig. 3.** Lithopedion CT scan with 3-D reconstruction. Diffuse and amorphous calcification through the lithopedion. The visceral organs can not be well delineated.

The patient's history revealed no recent discomfort. She suffered from hypertension but it was well controlled. All laboratory results were within normal limits. There was no anemia. There were no significant findings during physical examination other than some thickness at the left adnexa. She denied having ever received surgery before. On further questioning, she recalled having experienced an intractable abdominal pain in 1950. She was told by her physician of the presence of a benign tumor in the pelvic cavity. Surgical operation was suggested but she refused. The abdominal pain disappeared two months later without any medical or surgical management, and it had never appeared again. We believe that an abdominal pregnancy developed at that time. The lithopedion was therefore formed and retained in the maternal peritoneal cavity for 50 years.

## Discussion

A lithopedion is a rarely encountered result of an undiagnosed and untreated advanced abdominal pregnancy where the dead fetus is retained in the maternal abdominal cavity and calcification ensues. It can be classified into three subtypes according to the involvement of calcification to the membranes and the fetus: (1) lithokelyphos, in which the membranes alone are calcified, (2) lithokelyphopedion, as in the

case described here, in which both membranes and the fetus are calcified, and (3) true lithopedion or lithotecnon, in which the fetus is calcified and the membranes are negligible. A lithopedion can originate from a primary abdominal pregnancy, an aborted tubal pregnancy, or an intrauterine pregnancy followed by uterine rupture. The overall incidence of lithopedion formation is exceedingly low. It can account 1.3 to 3.0% of advanced abdominal pregnancies, which is found in one only in 10,000 live births, according to the Center for Disease Control estimates.<sup>2,4</sup>

After ovulation, the mature ovum may float freely in the peritoneal cavity, become fertilized and migrate to the opposite fallopian tube. In fact, the fertilized gamete may migrate to anywhere in the peritoneal cavity and implant without the existence of endometrium. If the placental tissue invades to the maternal blood vessels, hemorrhage may occur to interrupt the implantation and cause abortion. Occasionally, partial abortion develops and the fetus survives by the viable villi after 12 weeks' gestation, to make the advanced abdominal pregnancy.<sup>5</sup> If fetal demise occurs, it may be absorbed, suppurated or dehydrated and calcified. If the fetus remains sterile and is large enough to avoid absorption, the formation of a lithopedion may ensue.<sup>1</sup>

Tien collected 114 cases of lithopedions. 74 of them were the result of tubal pregnancy and 13 originated in ovarian pregnancy. After tubal or ovarian gestational sac rupture, the fetus ended up in the abdomen, eventually becoming calcified. Eight lithopedions were the result of primary abdominal pregnancy, and 5 patients originated in the horn of a bicornuate uterus.<sup>6</sup>

No typical symptoms or signs nor laboratory tests

may lead to the diagnosis of a lithopedion. Most cases of lithopedions are found incidentally when taking abdominal films for various reasons, or when a palpable abdominal mass is felt during pelvic examination. They may cause signs of compression; intestinal obstruction due to lithopedion has been reported, for example.<sup>7</sup> Surgical removal of a dead abdominal fetus or lithopedion as soon as the diagnosis has been established is recommended.

In this case, the patient did not suffer from any discomfort except the experience of severe abdominal pain noted 50 years ago. The laboratory tests were normal, and the physical examination revealed negative findings. This particular stone child was retained in the maternal abdominal cavity for 50 years before being delivered. Its birthday was 31 Dec. 1999, just one day before the millennium.

## References

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