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. Most lithopedions are found incidentally. No laboratory tests or typical symptoms are currently able to make the diagnosis of a lithopedion.

Case Report

Lithopedion

Lithopedion is a rare obstetric 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, during which the stone child had re-tained in the maternal peritoneal cavity for 50 years. [Chin Med J (Taipei) 2001;64:369-372]
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).

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 anaemia. There were no significant findings during physical examination other than some thickness at the left adnexa. She denied having surgery before. On further questioning, she recalled having experienced 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

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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 cannot be well delineated.

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case described here, in which both membranes and the fetus are calcified, and (3) true lithopedion, 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 fol lowed by uterine rupture. The over all in cidence of lithopedion formation is exceedingly low. It can ac count 1.3 to 3.0% of advanced abdominal pregnancies, which is found in one only in 10,000 live births, ac cord ing the Center for Disease Control est imates.\(^2\)\(^4\)

After ovulation, the mature ovum may float freely in the peritoneal cavity, be come fer til ized and mi grate to the op po site fal lo pian tube. In fact, the fer til ized ga mete may mi grate to any where in the peritoneal cav ity and im plant with out the ex is tence of endometrium. If the pla cental tis sue in vades to the ma ter nal blood ves sels, hem or rhage may oc cur to in ter rupt the im plan ta tion and cause abort ion. Oc ca sionally, partial abort ion de vel ops and the fe tus sur vives by the vi able villi af ter 12 weeks' ges ta tion, to make the ad vanced ab do mini nal preg nancy.\(^5\) If fe tal de mise oc curs, it may be ab sorbed, sup pu rated or de hy drated and cal ci fied. If the fe tus re mains ster ile and is large enough to avoid ab sorp tion, the for ma tion of a lithopedion may en sue.\(^1\)

Tien collected 114 cases of lithopedions. 74 of them were the re sult of tubal preg nancy and 13 orig i nated in ovarian preg nancy. Af ter tubal or ovar i an ges tational sac rup ture, the fe tus ended up in the ab do men, even tu ally be com ing cal ci fied. Eight lith o pedions were the re sult of pri mary ab dom i nal preg na ncy, and 5 pa tients orig i nated in the horn of a bi cornute uterus.\(^6\)

No typ i cal symp toms or signs nor lab or a tory tests may lead to the di ag no sis of a lithopedion. Most cases of lithopedions are found in ci den tally when tak ing ab do mini nal films for vari ous rea sons, or when a pal pable abdomi nal mass is felt during pelvic examination. They may cause signs of com pres sion; in tes ti nal ob struc tion due to lithopedion has been re ported, for ex ample.\(^7\) Surgi cal re moval of a dead ab do mini nal fetus or lithopedion as soon as the di ag no sis is es tab lished is rec om mended.

In this case, the pa tient did not suf fer from any dis com fort ex cept the ex pe ri ence of se vere abdomi nal pain noted 50 years ago. The laboratory tests were nor mal, and the phys i cal ex am i na tion re vealed neg a tive find ings. This par tic u lar stone child was re tained in the ma ter nal ab do mini nal cav ity for 50 years be fore be ing de liv ered. Its birth day was 31 Dec. 1999, just one day be fore the millen nium.

References