

Calcified abdominal pregnancy with eight years of evolution

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ABSTRACT:

The lithopedion (Calcified abdominal pregnancy) is a rare phenomenon and there are less than 300 cases reported in the medical literature. In this case, a 35 year-old patient had her third pregnancy 8 years earlier without medical assistance since then she came to our hospital with low back pain. Complementary examinations (Abdominal X-ray, Ultrasonography and Color Doppler Ultrasonography) demonstrated an extra uterine abdominal about 25 – week pregnancy with calcified areas. Exploratory Laparotomy was performed, with extirpation of a well – conserved fetus with non calcified ovular membrane.

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Introduction

Lithopedion (litho=stone; pedion=child) is the name given to an extra uterine pregnancy that evolves to fetal death and calcification. It is a rare phenomenon that mostly comes from an abdominal pregnancy. Incidence of an abdominal pregnancy is 1:11,000 pregnancies and lithopedion occurs in 1.5 to 1.8% of these cases^{1,3}. There have been less than 300 cases in 400 years of world literature^{2, 3, 4}. Because of increase in inflammatory pelvic disease and uterine tube surgery, there has been an increase in ectopic pregnancy¹. On the other hand, occurrences of abdominal pregnancy and lithopedion is rare due to medical and pre-natal care becoming more accessible to the population, with possibility of early diagnosis and treatment of pathology^{1,4}.

Case report

A 35 -year-old Bangladeshi woman presented in outpatient department of Community Based Medical College Bangladesh (CBMCB) with mild backache. An abdominal x-ray demonstrated skeleton of a fully developed extra uterine fetus as mantle of calcification. 2D ultra sound examination showed an empty uterus (fig.2a), left ovary and adnexa is normal but right ovary and adnexa could not outlined and the presence of large echogenic mass with evidence of calcifications in the right infra umbilical region. Fetal head (mildly deformed – biparietal diameter would not ascertain) and femoral shafts were well outlined. According to femur length (41mm) – fetal age was ~ 25 week. (fig2b)

Color Doppler ultra sound examination (fig.2c) showed no color flow within the calcified mass.

It is presumed from the patient's history that this fetus was present for at least 8 years.

The patient reported amenorrhea for 5-6 months, and noticed regular two abdominal swelling. At same time she noticed that one of the swelling gradually shrunken. She came to know that she was pregnant (single intra uterine) in Ultrasonography exam at CBMCB that happened ~ 8 yrs earlier. And she delivered a normal healthy female baby at term in her house.

Her gynecological history was of regular menstrual bleeding starting at menarche and again after 3rd pregnancy. She at times used oral contraceptive method.

Physical examination revealed an infraumbilical mass approximately 20 cm in diameter that was mildly mobile and hardened.

After laparotomy a fetus within sac (fig.3) was found in right broad ligament. Right fallopian tube was overlying sac with minimal adhesion. The mass was about 12 cm X 8 cm in size & weight ~ 500 gm.

After dissection of the sac, whole fetus with ossified skeleton was found (Fig.4). The fetus was within the intact amniotic cavity (without fluid). the Placenta was – 2 ½ inch X 3 inch in size with calcification

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Figure 1. Digital abdominal radiograph showing Calcified abdominal pregnancy.



Figure 2. 2D ultrasonogram showing femoral length & deformed fetal head



Fig.3. foot and leg are clearly identified



Fig.4. Calcified abdominal pregnancy – fetus lithopedion after dissection of uncalcified ovular membrane.

Discussion

In review of literature, the age of the patient on the date of diagnosis varied from 23 to 100 years, 2/3 of them being over 40 years old. Period of fetus retention was from 4 to 60 years. Fetal death occurred between 3 and 6 months of pregnancy in 20 % of cases, between 7 and 8 months in 27% and at full term in 43% of the cases^{2,4}.

Abdominal pregnancy results from rupture of tubal or ovarian pregnancy with abdominal cavity implantation^{1,3}. Development of lithopedion happens under certain conditions : (1) extra uterine pregnancy (2) fetal death after 3 month of pregnancy (4) egg must be sterile (4) there cannot be early diagnosis ; (5) local conditions must exist for calcium precipitation (deposit) ^{1,2,3}. Development of this pregnancy is same as for abdominal intra-uterine pregnancy until fetal death . After this time, dehydration of tissues and calcium infiltration occurs^{1,2,3}.

An abdominal pregnancy that calcifies is generically called lithopedion and can have following forms: (1) lithokelyphos (litho=rock, kelyphos =shell): only ovular membrane is calcified and fetus can be in different stages of decomposition (2) lithokelyphopedion: both are calcified, i.e. fetus and ovular membrane (3) lithopedion: only fetus is calcified 4 as in this case.

Although most cases may be remain asymptomatic for years, pelvic pain, weight sensation in abdomen and compressing symptoms can occur, affecting specially urinary bladder and rectum^{2,3}.

Diagnosis is revealed by suggestive clinical history, pelvic mass found during physical examination and frequently an X –ray of abdomen is enough to confirm it^{3,4}. Ultrasound examination shows an empty uterine cavity and non specific appearance of abdominal mass , confusing diagnosis.² Computerized tomography (CT) and nuclear magnetic resonance clearly define any pathology and help diagnosis of adhesences to other organ affected , although these are not absolutely necessary^{2,3,4}.

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 mild low back pain for the last few days. The laboratory test were normal and the physical examination revealed a hard, partially mobile mass at the right infra umbilical region. This particular stone child was retained in the maternal abdominal cavity for at least 8 years before being delivered. Its birth day was 17th July 2010.

Aunaoy D¹ and king EL⁵ have listed four changes which an abdominal fetes may undergo if it is not removed : (a) skeletonization, where only the bones of the fetus remain following disintegration and absorption of the soft parts; (b) adipocere, where the soft parts are replaced by fatty acids, soaps and salts of palmitic and stearic acids; (c) suppuration, where the fetus is destroyed after an abscess has formed, usually due to *E. coli* infection . Under these circumstances the abscess may rupture into vagina, rectum or other parts of the bowel and fetal bones may discharged through any body's orifices including the mouth. (d) true lithopedion formation occurs if the fetus remains sterile and to varying degrees becomes infiltrated with calcium salts.

The first operation in North America for removal of a fetus form an abdominal pregnancy was done by John Baird of New York in 1759. Details of this pregnancy were recorded by fothergill.⁶

Masson and simon⁷ in a comprehensive article reported 9 lithopedions in 44 cases of extrauterine pregnancy at the Mayo Clinic from 1903 to 1926, and added 9 more cases that were seen there.

King, 8 in a very interesting, well illustrated article, wrote of his experiences with 12 cases of advanced extrauterine pregnancy during his 25 years in China. One patient passed what she thought was a chicken bone by rectum , it was a fetal femur . His illustration shows the fetal bones neatly arranged, apparently all of them having been passed by rectum.

Auvray⁹ has reported the only case of lithopedion in which a carcinoma developed.

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