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Lithopedion in the Aged Diabetic Patient : A Case Report

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Summary

An aged diabetic patient with a lithopedion (stone baby) was reported. She was a 81-year-old-woman and treated for diabetes mellitus. She was hospitalized emergently because of lower abdominal pain due to an urinary tract infection. Radiolodically a fist size of calcified mass was found. It was a lithopedion that she had for more than 45 years. After the removal of the lithopedion, she was freed from the pain and fever, and her control of plasma glucose became better. This is the first case report, as far as we know, which retaining a lithopedion for long period in an aged diabetic patient. The relation between diabetes mellitus and the lithopedion was discussed.

KEY WORDS

lithopedion, aged, diabetes mellitus,

It is well known that the incidence of a retarded fetus, premature delivery, polycythemia, hypocalcemia or various teratogenesis is not low in the diabetic patients and more than half of the extrauterine pregnancies cease to live within 15 weeks statistically[1]. Those abnormalities must be found and treated in early stage because of the accompaning problems. We experianced an aged diabetic patient who retained a lithopedion after ectopic delivery without noticing it for a long period. In obstetrics, lithopedion means retention of a dead, calcified fetus in the mother.

PATIENT

An 81-year-old Japanese woman was admitted to our hospital with fever and abdominal pain. The patient was married at 23 years of age, however, since an abortion at age 24, her menstruation did not recur and she never conceived again. Diabetes mellitus was diagnosed 10 years ago and an oral drug "glibenclamide" had been given continuously till she began to feel the right lower abdominal pain, which gradually increased for a few days.

On admission, the patient was 150 cm in height and weighed 54 kg with a clear conciousness. Her countenance looked puffy but no abnormal cardiac murmur and respiratoric sounds were auscultated, but a firm, irregular, slightly tender swelling, fist size, with restricted mobility was palpable in the right iliac fossa. Both extremities showed weak but no pathological reflex. The body temperature was 37.1℃, Blood pressure was 180/88 mmHg and ocular fundi was H_1S_1.

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Table 1. Laboratory Findings on Admission

Urinalysis		Blood Chemistry			
Protein	(+)	Total Prot	6.2 g/dl	TSH	0.56 μU/ml
Sugar	(+)	GOT	24 IU/l	T_3	< 0.5 μg/dl
Aceton	(-)	GPT	11 IU/l	T_4	4.8 μg/dl
Sediment		LDH	5110 IU/l	FBG	285 mg/dl
RBC	50/HPF	CPK	30 IU/l	G-Hb A_1c	9.5 %
WBC	numerous	Na	141 mEq/l		
Epithel	20/HPF	K	4.2 mEq/l	Arteriar Blood Gass	
Cast	(-)	Cl	101 mEq/l	pH	7.453
Culture		BUN	42.7 mg/dl	$PaCO_2$	37.9 torr
GNR ·	10^7/ml	Cr	0.7 mg/dl	PaO_2	67.2 torr
CTM	(++)	T-Chol	147 mg/dl	HCO_3	36.3 mEq/l
Complete Blood Count		TG	91 mg/dl	BE	3.2 mEq/l
WBC	28100	Fibrinogen	990 mg/dl		
(Stab 10, Seg 84,		IgE	640 mg/dl	Tumor Marker	
E 4, L 1, M 1 %)		IgG	2417 mg/dl	CEA	2.3 ng/ml
Hb	12.2 g/dl	CRP	19.1 mg/dl	CA19-9	18.9 U/ml
RBC	420 X 10^4	ESR	38/95 mm, 1h/2h		

Pertinent laboratory data showed glucosuria, hematuria and neutrophilia. Urinary culture showed Gram negative bacillus 10^7/ml. Fasting blood glucose was 285 mg/dl without ketosis (Table 1.). ECG showed a sinus tachycardia. Radiological examination revealed a heterogenous calcified mass in the extra-uterine fossa of the pelvis on plain X-ray and the fetus that had bone fracture and spinal column ; lithopedion suspected on CT. Lumbosacral and hip examinations were interpreted as normal. There were minimal osteoporotic changes.

CLINICAL COURSE

As the results of the examination, dehydration with exacerbated diabetic state due to urinary tract infection was considered. A sufficient volume of saline with insulin and antibiotics were supplied, so that she was freed from fever with abdominal pain. High levels of blood glucose and plasma insulin levets also returned to normal gradually. However, abdominal mass remained unchanged, which was removed not to become a possible trigger of some other abdominal lesion.

Exploration revealed a 20-cm, solid, calcified, spherical mass densely adherent to the anterior abdominal wall, transeverse colon, omentum and several loops of the small bowel. The mass was adherent to the left adnexal region, but ovarian and tubal tissue could not be identified separately. After lysing the adhessions, the calcified mass and adnexa were removed en bloc. Opening the specimen proved somewhat difficult as the calcified sphere was 1-2 cm thick. Inside the sphere was a mummified fetus ; lithopedion. After the operation she was discharged, since the blood glucose levels were controlled more easily than just before the surgical operation (Figure 1.).

DISCUSSION

Although a record[2] of lithopedion was found as far back as BC 1200, the first detailed description was written by Israel Spach[3] in 1557 and Albucasis (AD 736-1013) discussed the

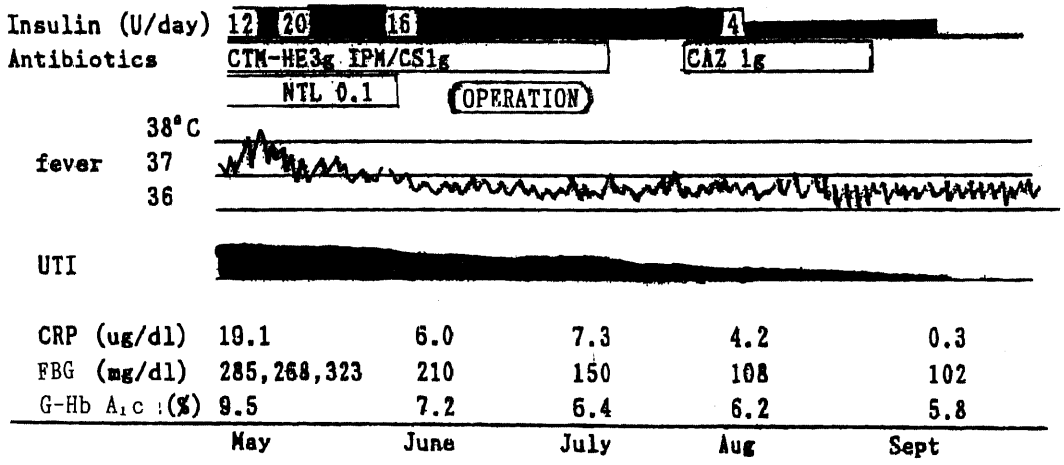

Figure 1. Clinical Course

problem of lithopedion in Arabic before that. In 1881 Kuchenmeister[4] classified three types of lithopedion : (1) lythokelyphosis, in which fetal membranes are calcified : (2) lythokelyphopedion, in which both fetus and membranes are calcified : and (3) true lithopedion, in which only the fetus is calcified. Our case may belong to (2) or (3). Actually the classification is not easy because several degenerative processes may ensure ; 1) skeletonization, 2) adipocere, 3) suppuration, 4) lithopedion formation, in which the fetus and/or membrane undergo various degrees of calcification. By the statistical data of lithopedion, the frequency was 1/1000 - 1/700,000 of total delivery, that is, 1/2300 - 1/60,000 of ectopy. Age of the mothers were between 16 - 100 years old. Average retaining duration[5] was between 4 - 60 years, in which recently reported two cases of aged mothers retained the lithopedion each for 70[6] and 40[7] years. The retaining period of our case is calculated as 57 years (81−24) if she conceived as a 24 year old. Review of the literature indicates that over the past 400years approximately 400 cases of lithopedion have been reported. The number is probably decreasing according to improving environmental assessments and health conditions, contrarily, lithopedion may be recognized more often with the imigration of woman from developing to developed countries[8].

Concerning to the relation between diabetes mellitus and lithopedion, it is widely accepted that giant baby, hyperbillirubinemia, asphyxia, anomalous baby or other abnormal fetus is not rare, especially, in blood glucose levels of more than 120 mg/dl at 1 hr, and more than 150 mg/dl at 2 hrs after meal. The abnormal gradiency between mother and fetus in gestational diabetics induced not only a fetal distress but a dangerous coma of the mother after childbirth. These risks might be higher in ectopy or placenta displasia. Conditions necessary for the development of a lithopedion are the following[9]: 1) Extra-uterine pregnancy, 2) The fetus must survive more than three months, 3) The ectopic pregnancy must escape medical detection, 4) The fetus must remain sterile, 5) The necessary condition for calcium deposition must be present. In our case, the diabetic condition had progressed mildly with few complication to interact or to fulfill those conditions, although the time when the latent diabetic state became overt is unknown.

The lithopedion often remains inside the abdominal cavity without showing any symptoms. There are no classic signs or symptoms that aid in the diagnosis. Most cases have been discovered incidentally at surgery or autopsy. Fagan (1980) nicely demonstrated rentogen-

ographic and CT appearances. The differential diagnosis includes calcified pelvic and abdominal mass, teratoma of the ovary, calcified liomyoma of the uterus and calcification of the epiplotic appendages. Once the diagnosis is made, surgical removal[10] has been mostly accepted but for a few exceptions[11].

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