

# The lithopedion – an unusual cause of an abdominal mass

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## Summary

We report the rare case of a lithopedion in an asymptomatic 69-year-old woman. Diagnosis was confirmed by plain abdominal X-ray. In view of the patient's age and symptomatology, we opted for conservative management with regular abdominal examination and imaging.

Lithopedion is the descriptive term for a bony or calcified fetus resulting from an advanced extra-uterine pregnancy. It is a rare phenomenon accounting for 1.5 - 2% of ectopic pregnancies and 0.0054% of all gestations; less than 300 cases have been published in the literature. We report here the case of a lithopedion in an asymptomatic 69-year-old woman. Plain abdominal X-ray confirmed the presence of a calcified fetus and investing membranes in the right upper quadrant. Fetal femur length charts placed the gestational age at 30 weeks, while the period of lithopedion retention was estimated to be about 25 years.

## Case report

A 69-year-old woman with 3 previous uneventful term pregnancies and a background history of peripheral vascular disease presented to our emergency room with a gangrenous left foot. She had been referred from a rural area of the Northern Cape. Physical examination confirmed dry gangrene up to the mid-tibial level and a hard painless solid mass in the right upper quadrant. Pelvic and rectal examinations were unremarkable. Detailed history revealed that the patient had had 3 uneventful pregnancies and reached menopause at the age of 44. No gastro-intestinal, gynaecological or urological symptoms could be elicited. A complete blood count and tests of renal and liver function and serum  $\beta$ -human chorionic gonadotrophin levels showed that these were within normal limits. Duplex ultrasonography demonstrated complete occlusion of the left popliteal artery. Plain abdominal X-ray showed a fully formed calcified extra-uterine fetus with surrounding calcified membranes. Calcified myomas were also noted in the pelvis (Fig. 1). A femur length of 5.8 cm put the fetal age at 30 weeks and 3 days.

In view of the patient's age and symptomatology (painless mass, no features of bowel obstruction, no obstructive uropathy, no



Fig 1. Plain abdominal X-ray showing a fully formed calcified extra-uterine fetus with surrounding calcified membranes; calcified myomas are also noted in the pelvis.

gynaecological symptoms), we opted for conservative management with regular visits to our outpatients' clinic. She underwent a left formal above-knee amputation for the dry gangrene. Unfortunately, she died of a pulmonary embolus postoperatively.

## Discussion

A lithopedion typically arises in an extra-uterine pregnancy after a 3-month gestation period; sluggish local blood circulation, a sterile fetus and conditions conducive to calcium deposition are well-recognised factors in the pathogenesis. Three distinct types can be identified: (i) lithokelyphos in which only the membranes are calcified and form a hard sheath around the fetus; (ii) litho-

kylephopiedion where both the membranes and fetus are calcified; and (iii) true lithopedion where the fetus is infiltrated with calcium salts and the membrane has undergone minimal calcification.<sup>1</sup>

Patient ages vary between 30 and 100 years, while duration of lithopedion retention ranges from 4 to 60 years. Our patient was 69 years old (lithopedion retention period estimated at about 25 years) and resided in a rural part of the Northern Cape where antenatal facilities are scarce. Our finding correlates with published reports, which suggest that advanced abdominal pregnancies are invariably linked to low socio-economic status and poor access to antenatal care.<sup>1-3</sup>

Symptomatology is very often nonspecific and of a chronic nature. It can include vague abdominal pain, chronic constipation, bowel obstruction and obstructive uropathy, or be an incidental finding in an asymptomatic patient, such as in our case. A plain X-ray is a valuable and inexpensive screening tool that usually confirms the diagnosis. Further investigations such as computed tomography (CT), magnetic resonance imaging (MRI) and barium

enema are guided by the patient's symptoms, and are valuable in planning the surgical approach, when necessary.<sup>2</sup>

There is currently no consensus concerning the management of such patients. We believe that treatment plans must be individualised and take into account the presentation, age and symptoms of the patient. It is reasonable to manage asymptomatic patients with regular physical examination and imaging. Whenever surgery is performed, the placenta should be left *in situ* to avoid haemorrhage. The description of the lithopedion remains a harsh reminder of the poor antenatal care that currently prevails in the developing world.

#### REFERENCES

1. Lachman N, Satyapal KS, Kalideen JM, et al. Lithopedion: A case report. *Clin Anat* 2001;14:52-54.
  2. N'Gbesso RD, Coulibaly A, Quenum G, et al. A rare etiology of abdominal calcifications: lithopedion. *J Radiol* 1998;79:683-686.
  3. Zvandasara P. Advanced extrauterine pregnancy. *Cent Afr J Med* 1995;41:28-34.
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