CASE REPORT

AN UNCOMMON PRESENTATION OF IRREDUCIBLE INGUINAL HERNIA: SONOGRAPHIC APPEARANCES IN A ONE WEEK OLD BABY

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ABSTRACT

Inguinal hernias presenting in the first week of life are uncommon and represent paediatric emergency. We present the classical sonographic appearances in a strangulated irreducible right inguinal hernia in a one week old female. The hernia contained mainly intestines and measured grossly 22 x 16mm in dimension. Doppler studies indicate on-set of vascular compromise, with its potential risk of morbidity and mortality. The hernia was initially clinically mis-diagnosed as inguinal lymphadenopathy. We emphasize the need for an immediate sonography and consequent referral in all cases of groin / inguinal swellings in neonates, to determine exact cause and improve surgical outcome.

Keywords. *Inguinal hernia, sonography, neonate*

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INTRODUCTION:

A hernia is caused by the protrusion of a viscus (in the case of groin hernias, an abdominal organ) through a weakness in the anterior wall. The weakness may be inherent, as in the case of inguinal, femoral and umbilical hernias. On the other hand, the weakness may be caused by surgical incision through the muscles of the thoracic or abdominal wall. Femoral hernias occur below, the inguinal ligament and account for only 3 % of all hernias. A strangulated hernia occurs when there is vascular compromise to part of the intestine, leading to necrosis and gangrene if not relieved urgently. On the other hand, incarcerated hernia may suggest an irreducible obstructed hernia without an associated vascular compromise.'

The overall incidence of inguinal hernia in adults varies from1 to 15%, with male to female ratio of 12:1. When obstructed, inguinal hernias may cause compression of the mesenteric veins producing increased venous pressure leading to oedema of the bowel walls.

The local findings which may result include extreme pain and tenderness, swelling, oedema, redness of skin, and irreducibility .

Systemic manifestations are those of bowel obstruction and gangrene leading to serious fluid and electrolyte imbalance. The mortality is directly related to the length of time of obstruction and age of the patient. Strangulated or obstructed inguinal hernia presents as a surgical emergency[2].

The diagnosis of inguinal hernia is largely a clinical one, generally by physical examination. However, imaging in form of ultrasonography, MRI or CT may be useful especially in the obese patient. An abdominal X-ray may be necessary to exclude bowel obstruction.

Inguinal hernias are one of the most common paediatric emergencies. The frequency of this condition in addition to its potential morbidity of ischaemic injury to the intestines, testis or ovary makes proper and imminent diagnosis necessary. We present a rare case of strangulated right inguinal hernia in a one week old female baby.

CASE STUDY

Our case is a one week old female baby, with a 2 day history of sudden and progressive right inguinal swelling. Baby weighed approximately 3.4kg at birth, had APgar score and had no post-natal complications. Delivery was by spontaneous vaginal method, with slight episiotomy. The swelling was absent immediately after birth. Physical examination revealed an oval shaped, soft and tender swelling, warm to touch at the right inguinal region. Initial clinical impression of right inguinal lymphadenopathy was made. Baby has one day history of retching bowel movement and single episode of vomiting. An ultrasound scan was performed, on a rather calm, and relaxed baby.

SUBJECT AND METHODS

A digital ultrasound machine ACUSON 500 by Siemens Ag Germany. The machine is equipped with multi-frequency sector, volume as well as endovaginal probes. The caliper calibrated for an assumed sound velocity of 1540ms-[1] in soft tissue. The investigations were performed with 13 MHz linear and 3.5 - 5.0MHz. Linear transcutaneous probes. Machine is equipped with color Doppler facility.

RESULTS.

Sonographic findings included a 22 x 16mm hyperechoic mass of soft tissue configuration. Mass has echogenic periphery, and multi-focal echopoor areas in its central region. Mass lies in the right inguinal region, in the area of the processus vaginalis. The contralateral side was intact. The uterus and small ovaries and urinary bladder were identified outside this mass. Doppler interrogation revealed poor vascular flow suggesting possibility of compromise. The sonographic impression is a Strangulated irreducible right inguinal hernia, containing mainly bowel loop.

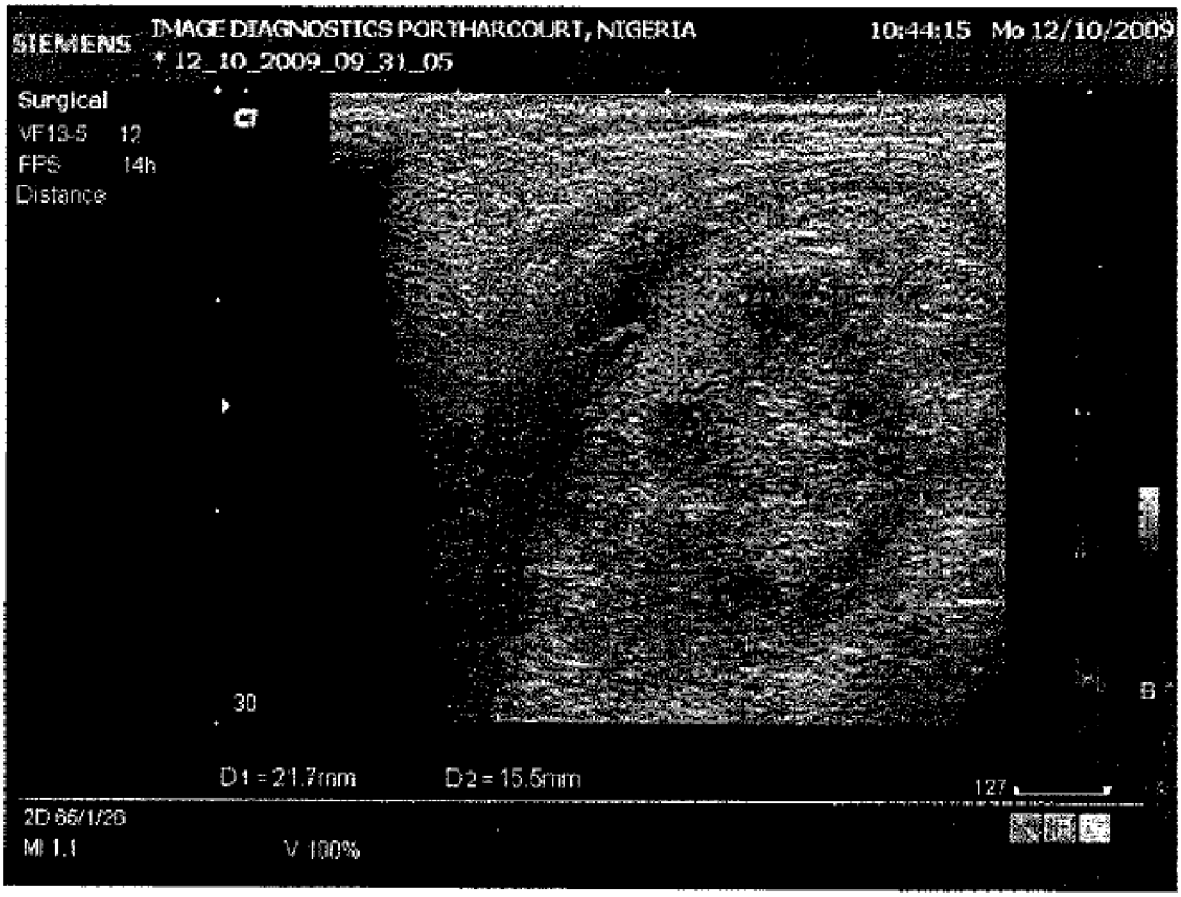

Fig 1. Image of the strangulated hernia in transverse sweep

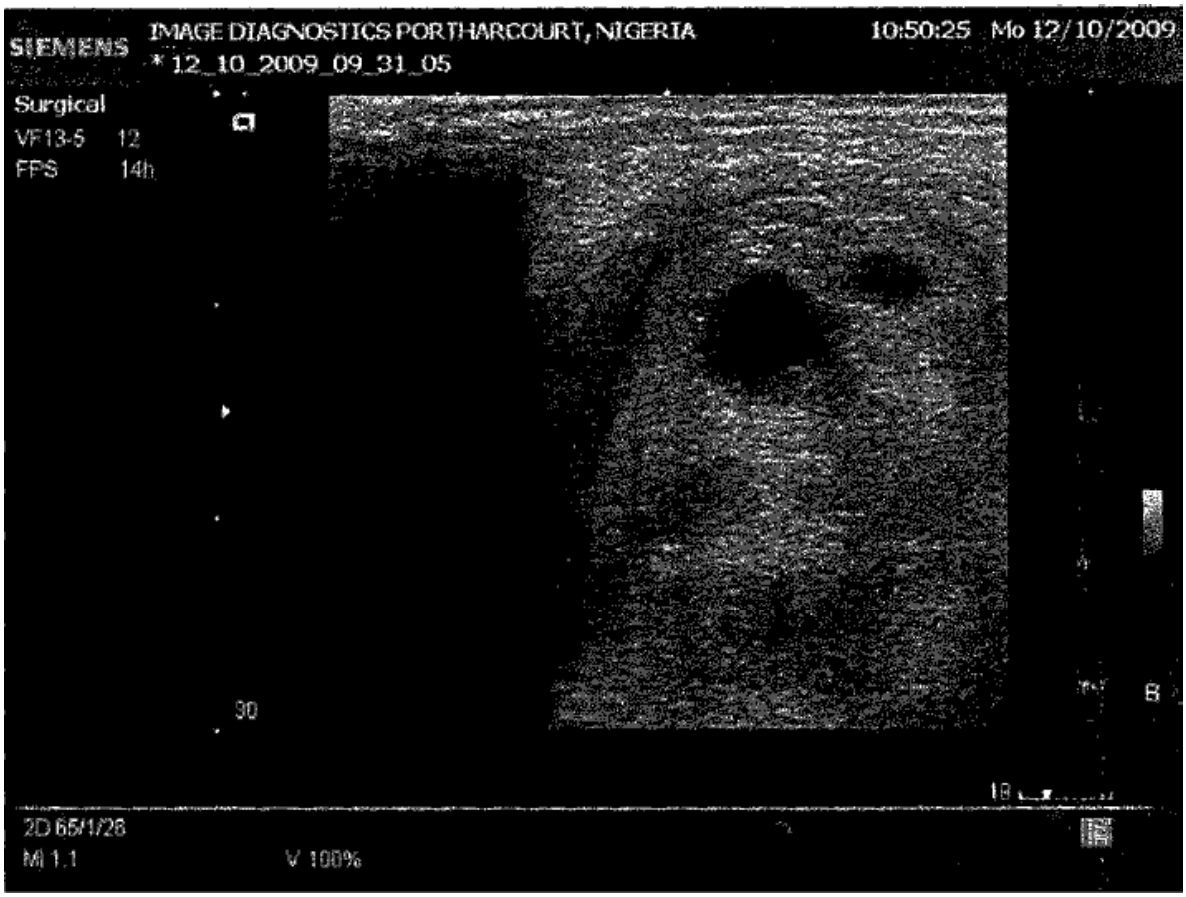

Fig 2: Inguinal hernia seen on longitudinal sweep

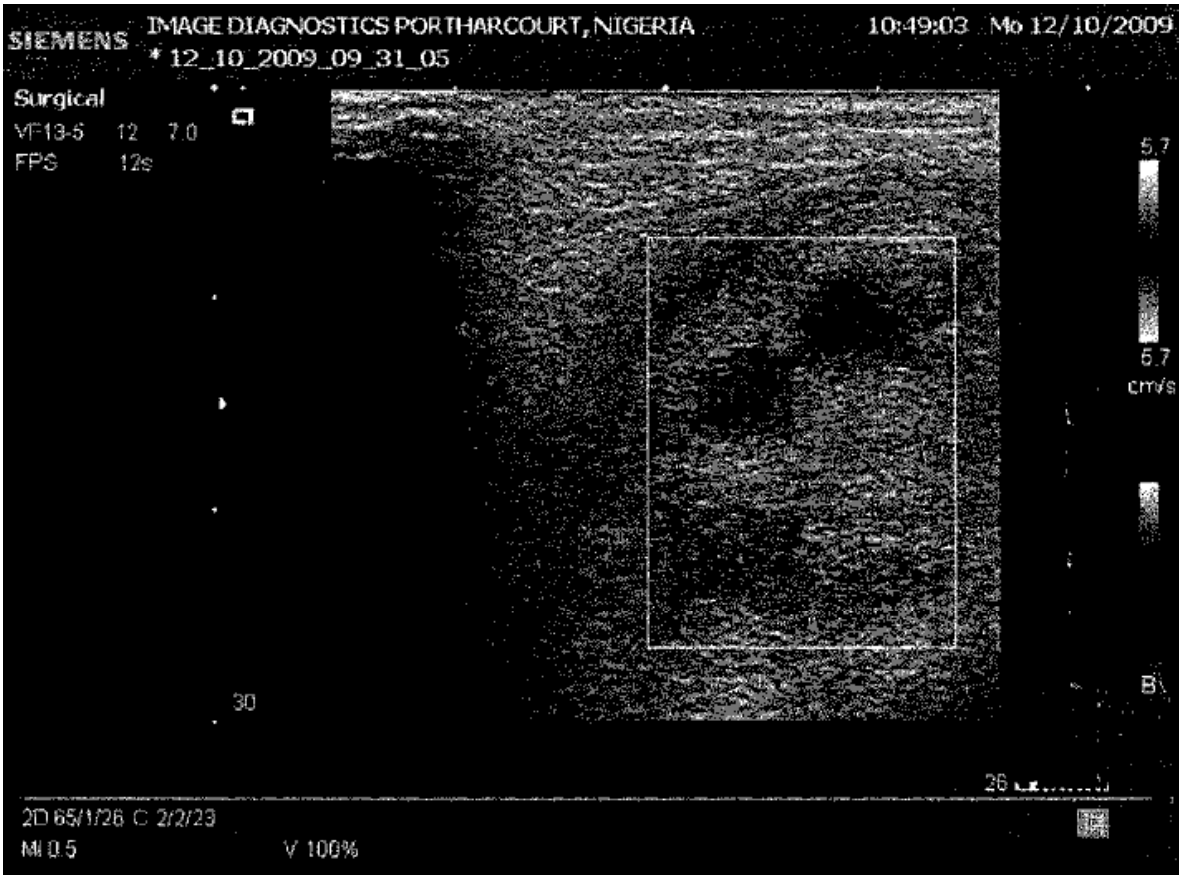

Fig 3: Doppler imaging of the mass showing poor vascular flow

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