IMAGES IN NEONATAL MEDICINE.....

Fetal meconium peritonitis: the "vanishing hydrocele" sign

Large scrotal swellings, completely embedding the shaft of the penis, were noted on a newly delivered, full term, male infant. The swellings were soft, fluctuant, and transilluminable. With gentle pressure, the contents of the swellings could be emptied into the abdominal cavity. Scrotal ultrasound showed a large collection of fluid within the swelling with areas of increased echogenicity consistent with calcification (fig 1). Surgical exploration showed normally descended testes surrounded by copious, gelatinous fluid, which also contained meconium. A patent right processus vaginalis was repaired. The left sided "scrotal swelling" resolved spontaneously. Histological examination showed brown pigment in meconium stained macrophages, areas of focal calcification, and a foreign body giant cell reaction, consistent with antenatal bowel perforation and subsequent peritonitis. Contrast studies of the bowel, a sweat test, and serum calcium levels were normal.

Fetal meconium peritonitis, which is often associated with gastrointestinal atresia, volvulus, adhesions, inspissated meconium, or vascular compromise,¹ occurs as a result of in utero intestinal perforation. It often proves fatal both prenatally and postnatally. However, meconium peritonitis can also have a benign clinical course, after spontaneous closure of the bowel perforation in utero. Intra-abdominal calcification may be detected incidentally on a plain film of the abdomen. Meconium peritonitis can also present as a "hydrocele" at birth.²⁻⁶ This results from the passage of meconium from the abdominal cavity through a patent processus vaginalis into the scrotum. At birth, such male infants are noted to have a soft swelling of the scrotum, often becoming hard over the following weeks as a result of calcification within the scrotum.

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Figure 1 Scrotal ultrasound pictures showing a large collection of fluid within the swelling with areas of increased echogenicity consistent with calcification.