

possibility of fetal neuromuscular disease which prompted clinical examination followed by genetic testing of the mother which confirmed the myotonic dystrophy gene expansion. Prenatal diagnosis in fetus was not attempted because of the late presentational and the genetic confirmation in mother.

**Sandeep Jayawant,
Rajiv Sinha,**

John Radcliffe Hospital, Oxford.

Correspondence to:

Rajiv Sinha,

*Flat 95, Ivy Lane, Headington,
Oxford OX3 9 DY.*

REFERENCES

1. Aicardi J. Primary muscle disease. *In: Aicardi J, editor. Diseases of the Nervous System in Childhood.* 2nd edn. London, Mackientn Press; 1998. p. 761-763.
2. Esplin MS, Hallam S, Farrington PF, Nelson L, Byrne J, Ward K. Myotonic dystrophy is a significant cause of idiopathic polyhydramnios. *Am J Obs Gynecol* 1998; 179: 974-977.
3. Fetal abnormalities - Inherited and acquired disorders, Section XI, *In: Cunningham, McDonald, Gant, Leveno, Gilstrap, Hankin, Clark, editors. Williams Obstetrics 20th edition, Prentice-Hall (1997), International pp 905-907.*
4. Connolly MB, Roland EH, Hill A. Clinical features for prediction of survival in neonatal muscular disease. *Pediatr Neurol* 1992; 8: 285-288.
5. Delest A, Elhage A, Cosson M, Leclercq G, Gremillet C, Pasquier F, *et al.* Steinert's disease and pregnancy. A case report and recent literature. *J Gynecol Obst Biol Reprod* 1995; 24: 177-180.

Laparoscopy in Suspected Meckel's Diverticulum: Negative Nuclear Scan Notwithstanding

A one-year-old boy was admitted with painless lower gastrointestinal bleeding since one week. Investigations done at another hospital showed a hemoglobin of 6.2 g/dL for which blood transfusion had been given. The child had also undergone upper and lower gastrointestinal endoscopy and a technetium^{99m} pertechnetate scan, which were all reported as normal. At admission to this hospital, physical examination revealed no abnormality. The clinical possibility of Meckel's diverticulum was discussed with the parents and a diagnostic laparoscopy was offered. Laparoscopy using a 5 mm umbilical port revealed a Meckel's diverticulum. Using two 3 mm secondary ports the diverticulum

was delivered out of the abdomen through the umbilical incision. A wedge resection of the diverticulum with intestinal anastomosis was done.

Meckel's diverticulum is the most common congenital anomaly of the gastrointestinal tract involving the small bowel(1). In infants and younger children, painless lower gastrointestinal bleed is the commonest manifestation. The bleeding may be brisk and blood transfusion is often required. A pre-operative diagnosis of a Meckel's diverticulum is often difficult to make.

Routine evaluation of these children would include a hemogram, endoscopic evaluation of the gastrointestinal tract and a radioisotope scan. Abdominal ultrasonography is commonly performed but rarely helps in diagnosis. Barium studies have little utility. The most useful method to detect a

Meckel's diverticulum is the technetium^{99m} pertechnetate scan. A positive scan depends on tracer uptake by heterotopic gastric mucosa, which is present in only 50% of cases(1). Presence of ectopic tissue other than gastric, recent barium study, a small diverticulum or hemorrhage washing out the isotope, are all known to lead to false negative results. The negative predictive value of the scan is a low 0.74(2). The sensitivity and specificity of Meckel's scan is approximately 85% and 95% respectively(1). A combination of pentagastrin and H₂ receptor blockers(3) and, more recently, glucagon has been used to improve results of nuclear imaging. The low negative predictive value, therefore, necessitates surgical evaluation despite the scan result.

Laparoscopy in children as a diagnostic tool in gastrointestinal bleeding of obscure origin holds good promise(4). Laparoscopy is, both, diagnostic and therapeutic. The whole of the small bowel can be systematically inspected and the diverticulum can be easily identified. With the aid of the laparoscope, extracorporeal or intracorporeal resection(5) may be performed and the need for a formal exploratory laparotomy avoided. Laparoscopy also scores over laparotomy in terms of smaller incision, less pain and earlier recovery.

A high index of clinical suspicion is important, particularly, in patients with a negative Meckel's scan and we recommend

that laparoscopy must be advised in all such cases.

**Vishal Raj Saggar,
Anurag Krishna,**

*Department of Pediatric Surgery,
Sir Ganga Ram Hospital,
New Delhi 110 060, India.*

Address for correspondence:

Dr. Anurag Krishna,
*6/15, Shanti Niketan, New Delhi 110 021.
E-mail: anuragkrishna@sgrh.com*

REFERENCES

1. Martin JP, Connor PD, Charles K. Meckel's diverticulum. *Am Fam Physician* 2000; 61: 1037-1042
2. Swaniker F, Soldes O, Hirschi RB. The utility of technetium pertechnetate scintigraphy in the evaluation of patients with Meckel's diverticulum. *J Pediatr Surg* 1999; 34: 760-764.
3. Heyman S. Meckel's diverticulum: possible detection by combining pentagastrin with histamine H₂ receptor blocker. *J Nucl Med* 1994; 35: 1656-1658.
4. Lee KH, Yeung CK, Tam YH, Ng WT, Yip KF. Laparoscopy for definitive diagnosis and treatment of gastrointestinal bleeding of obscure origin in children. *J Pediatr Surg* 2000;35:1291-1293.
5. Valla JS, Steyaert H, Leculee R, Pebeyre B, Jordana F. Meckel's diverticulum and laparoscopy of children. What's new? *Eur J Pediatr Surg* 1998; 8: 26-28.