Antenatal appendicular perforation


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Summary: Antenatal appendicular perforation leading to localized meconium peritonitis and intestinal obstruction is reported in a premature neonate. The baby was successfully treated by a limited ileocaecal resection.

Introduction

Appendicitis is rare in the neonatal period. We report a successfully treated case of localized meconium peritonitis secondary to an antenatal appendicular perforation in a premature low birth weight baby. This is believed to be the second case reported of meconium peritonitis due to in utero appendicular perforation.

Case report

A 12 day old female neonate, born at 32 weeks gestation, to a third gravida mother by normal vaginal delivery was admitted with constipation and abdominal distension since birth. The antenatal history was unremarkable except for prematurity. She had passed a small amount of meconium at 8 hours after birth. Later, she was able to pass only a few hard and dry pellets occasionally with rectal suppositories.

The baby weighed 1400g and the abdomen was uniformly distended with visible intestinal peristalsis. A hard, nodular and fixed intra-abdominal mass 3 x 3 cm was palpable in the right iliac fossa. The anorectum was normal. The laboratory data were unremarkable. Plain radiographs of the abdomen showed the mass in the right iliac fossa to be calcified and gaseous distension of small bowel (Figure 1). A gastroconray study revealed a narrow calibre colon. Although repeated warm saline rectal washes relieved the obstruction temporarily, acute intestinal obstruction developed again, a week later. At laparotomy, the calcified mass was seen encasing the distal half of the appendix and the terminal ileum. There were dense adhesions around this mass. Lysis of adhesions and limited ileocaecal resection was performed with ileo-ascending colon anastomosis (Figure 2).

Histological sections from the terminal ileum and caecum showed normal mucosa and ganglion cells. Sections from the appendix showed ulceration of the mucosa with increased lymphomononuclear cells in

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Figure 1 Supine radiograph of abdomen showing calcification in the right iliac fossa and gaseous distension of small bowel.

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lamina propria, oedema and hyperaemia in the sub-
mucosa, prominent lymphoid follicles, organizing
serositis with perforation, and calcification. The post-
operative recovery was uneventful. A rectal biopsy
showed normal ganglion cells. The child was discharg-
d home with normal bowel habits.

Discussion

Acute appendicitis with perforation causing bacterial
peritonitis and presenting as an acute abdominal
emergency in infants, neonates1,3,4 and even premature
babies1,4,5 has been well documented. However, only
one case of prenatal appendicular perforation result-
ing in meconium peritonitis1 has been previously
reported.

The usual obstructive appendicitis is rare in neo-
nates as the base of the appendix has a conical
configuration which makes obstruction of the lumen
unlikely and before the differential growth of caecum
occurs in the fetus, the lumen of appendix is larger at
its junction with the caecum than at its tip.6 Perfora-
tion of the appendix in neonates may occur secondary
to obstructive lesions like Hirschsprung’s disease,
colonic atresia, imperforate anus or ischaemic lesions
like necrotizing enterocolitis.7 Idiopathic perforation
of bowel in the absence of intestinal obstruction may
be due to aplasia of the muscularis mucosa. primary
vascular insufficiency or a localized vascular
accident.8,9

The presence of abdominal distension and abnor-
mality of meconium evacuation since the day of birth
and involvement of the appendix in meconium
peritonitis was a strong pointer towards the probability
of antenatal perforation10 as the cause of
this child’s illness. Ileo-caecal resection was needed in
our case because of the necessity for terminal ileal
resection and extensive adhesions around this region
cause by meconium peritonitis. Mucoviscidosis
could be ruled out in view of normal bowel habits
postoperatively in the present case.

References

Acute appendicitis in the first two years of life. J Pediatr
2. Shaul, W.L. Clues to the early diagnosis of neonatal
3. Nagel, P. Scrotal swelling as the presenting symptom of
acute perforated appendicitis in an infant. J Pediatr Surg
4. Yadav, K., Narang, A., Rao, K.L.N. & Kumar, S.
Neonatal appendicular perforation. Indian Pediatr 1983,
20: 373–375.
5. Ayalon, A., Mogilner, M., Coheno, L.Z. & Schiller, M.
Acute appendicitis in a premature baby. Acta Chir Scand
6. Kontor, E.J., Malik, T. & Verebely, T.L. Appendicitis in
15–16.
7. Martin, L.W. & Glen, P.M. Prenatal appendiceal per-


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