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MEDICAL MEMORANDUM

Meconium Ileus in a Nigerian Infant

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Idoko, A., Senapati, M. K., Ochefu, P. Y. and Chadha, R. S. (**1974**). *Nigerian Journal of Paediatrics*, **1** (**2**), 69. **Meconium Ileus in a Nigerian Infant.** A case of meconium ileus in a neonate born to Nigerian parents of Birom ethnic origin is reported. We believe that this is an early manifestation of cystic fibrosis. To our knowledge, neither meconium ileus nor cystic fibrosis has been reported previously in a Nigerian child. It is suggested that Paediatricians and other workers in the field of Paediatrics and Child Health in Nigeria and other African countries should be aware of the existence of this disease in children.

CYSTIC fibrosis of the pancreas (mucoviscidosis) was, according to di Sant' Agnese, (1969) first described as a clinical entity in 1936 by Fanconi. The condition is inherited as an autosomal recessive and has a striking racial distribution. The incidence of the disease has been estimated to be 1 in 2,000–3,000 live births in caucasians (Honeyman and Silker, 1965; Lightwood, Brimblecombe, and Barltrop, 1971); about 5 per cent of the caucasian population are carriers of the gene. Among the negro population in the United States, the incidence of the disease is reported to be lower than in the caucasians (Chun-I Wang *et al.*, 1968). In other racial groups (Asiatic and American Indians, Arabians, Japanese, the Bantus) few isolated cases have been reported (Reddy *et al.*, 1969; Bhakoo, Kumar and Wahia, 1968; Harris and Riley, 1968; Levin, 1963; Hamamoto, Ohtahara, and Iizuka, 1966; Grove, 1959). Thus, while the disease appears to be a very frequent lethal genetic disease among caucasians, it is far less common in negroes and other racial groups.

The purpose of this communication is to report a case of meconium ileus in a Nigerian neonate which is considered to be almost certainly a manifestation of cystic fibrosis.

Case Report

The patient, a female, was the product of a full term and normal pregnancy. She weighed 3 kg at birth. Six hours after birth the baby passed small pellets of meconium and none thereafter. Between the second and fourth day of life the baby fed poorly and vomited bile-stained fluids.

The family history revealed that the parents were of Birom ethnic origin in the Benue-Plateau State. The only sibling died at the age of one year from diarrhoea and vomiting. There was no other significant family history.

The patient was seen for the first time by one of us (AI) when she was four days old. Physical examination revealed an ill-looking full term baby with moderate dehydration and conspicuous abdominal distension. The bowel sounds were increased. The rectum was completely empty. There was no other abdominal physical sign. A plain abdominal radiograph showed distended coils of small intestines and mottled appearance in the right and lower flanks. A clinical diagnosis of intestinal obstruction was made.

At laparotomy, under ether anaesthesia, the peritoneal cavity contained serosanguinous fluid. The proximal small intestine up to about 25 cm from the ileocoecal junction was grossly distended. The entire colon was constricted, measuring less than 1 cm in diameter. The distal end of the dilated small intestine contained normal looking meconium and much gas, but very little peristalsis was present, and the gut did not empty itself. Attempted 'milking' also proved unsuccessful. The terminal ileum contained dry, tenacious, greyish and putty-like material. This segment was not dilated. Attempts to wash out the meconium with hydrogen peroxide was unsuccessful. The constricted segment of the intestine was resected and an ileotransverse anastamosis performed. The post-operative condition of the child remained very poor until she died on the fourth post-operative day.

Discussion

There are several clinical manifestations of cystic fibrosis. In the neonatal period, the disease usually manifests as meconium ileus. This is said to be the earliest manifestation in 10–15 per cent of all cases of the disease (Sabiston, 1972). There may be intermittent or continuous diarrhoea. Occasionally meconium peritonitis, volvulus or intestinal atresia may occur (Sinclair and Driver, 1954). Later in life recurrent respiratory tract infections or malabsorption syndrome leading to failure to thrive are the more common presenting features. About one third of all cases of malabsorption syndrome among caucasian children are due to cystic fibrosis (di Sant 'Agnese, 1960). All cases of meconium ileus which have survived surgery have developed classical features of cystic fibrosis (Shwachman and Leubner, 1955).

From the clinical and radiological evidence of complete lower intestinal obstruction, and the operative findings of inspissated meconium in the terminal ileum, there can be no doubt that our patient was a case of meconium ileus. Since meconium ileus is the earliest manifestation of cystic fibrosis, we believe that the present case was one of cystic fibrosis. To our knowledge, this is the first time that this disease has been reported in a Nigerian child.

It would seem to us that although cystic fibrosis is less common among the negro race than among the caucasians, the condition does exist in indigenous Africans. The apparent rarity of the disease in Africa may be due to the fact that so far, all the victims die off in the neonatal period without coming to the attention of any medical personnel. Secondly, it is likely that the condition is missed in older children who thrive in an environment where diarrhoeal disorders, respiratory tract infection and malnutrition are every-day clinical problems.

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