Intussusception Associated with a Relapsing Nephrotic Patient : A Case Report

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Abstract

Background : Gastrointestinal disturbances are encountered frequently in the course of the nephrotic syndrome but intussusception is a rare association. It may be the result of incoordinate motility and bowel wall edema.

Objective : To report a case of intussusception associated with relapsing nephrotic syndrome.

Case Report : The authors reviewed the case of a 5-year-old boy who had been diagnosed as having nephrotic syndrome at Queen Sirikit National Institute of Child Health for 1 year, who later presented with nephrotic symptoms and an acute abdomen. Abdominal ultrasonography and barium enema were performed which diagnosed ileo-colic intussusception. Resection of the ileum and appendectomy were performed while the relapsing nephrotic syndrome was treated by prednisolone. The patient's recovery was excellent. Percutaneous renal biopsy was done because of the frequent relapsing condition and showed mesangial proliferative glomerulonephritis consistent with IgM nephropathy. Intussusception should be included in the differential diagnosis of relapsing nephrotic syndrome presenting with acute abdominal pain. Abdominal ultrasonography is helpful in confirming this condition.

Key word : IgM Nephropathy, Mesangial Proliferative Glomerulonephritis, Nephrotic Syndrome, Intussusception

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CASE REPORT

A 5-year old boy with a history of nephrotic syndrome for 1 year was hospitalized because of severe vomiting, melena, abdominal pain and distension. Past medical history included 2 weeks of primary peritonitis with relapsing nephrotic disease. Physical examination revealed a sick looking, afebrile child with generalized edema. He had a BP of 110/70 mmHg and abdominal examination revealed ascites without abdominal mass. Per rectal revealed melena with mucous bloody stool. Serum Na^+ was 130 mEq/L, K^+ 3.5 mEq/L, Cl^- 88 mEq/L, albumin 1.4 g/dL, cholesterol 680 mg/dL, BUN 14 mg/dL, Cr 0.7 mg/dl. His urine examination showed specific gravity of 1.015, pH 6.5, 3+ protein, WBC 1-2/HPF, no RBC. Plain abdominal X-ray showed marked dilatation of the long loops of the bowel without definite free air or free fluid. Abdominal ultrasonography revealed a donut lesion on the right side along with an intussusception mass (Fig. 1) and barium enema was suggestive of ileo-colic intussusception (Fig. 2).

The surgical finding showed marked dilatation of the small bowel and ileo-colic intussusception with a gangrenous ileum. Resection of the ileum and appendectomy were performed, and no leading point of intussusception was found. After surgery, the relapsing nephrotic syndrome was treated with prednisolone. Percutaneous renal biopsy was done because of frequent relapsing disease and showed mesangial proliferative glomerulonephritis consistent with IgM nephropathy.

DISCUSSION

The incidence of nephrotic syndrome of childhood is about 2 to 7 new cases per 100,000 population. It is characterzied by proteinuria (> 40 $mg/m^2/h$ or protein:creatinine ratio > 200 mg/mmol), hypoalbuminuria (< 25 g/L) and edema[1]. Edema is one of the major symptoms of this disease which usually has an abrupt onset and leads to the discovery of the proteinuria and diagnosis of nephrotic syndrome. Two mechanisms have been proposed to explain the occurrence of edema; decrease in plasma oncotic pressure or primary renal sodium retention in the collecting tubule[2-4]. Although pathogenesis of edema formation is different, edema of a nephrotic patient tends to be distributed generally throughout all tissue producing ascites, pleural effusion and scrotal edema[5].

Gastrointestinal disturbances are encountered frequently in the course of nephrotic syndrome. Abdominal pain, diarrhea and hepatomegaly are common during periods of massive edema. The presented patient had just been treated for primary peritonitis with relapsing nephrotic syndrome a few weeks prior to the episode he presented with but this time he came in because of abdominal pain, severe vomiting and melena. With this presentation an acute surgical abdomen should be ruled out. Abdominal ultrasonography and barium enema both suggested intussusception. Generally, the cause of most intussusceptions is idiopathic because there are no obvious predisposing factors or leading points, some may be due to hyper-

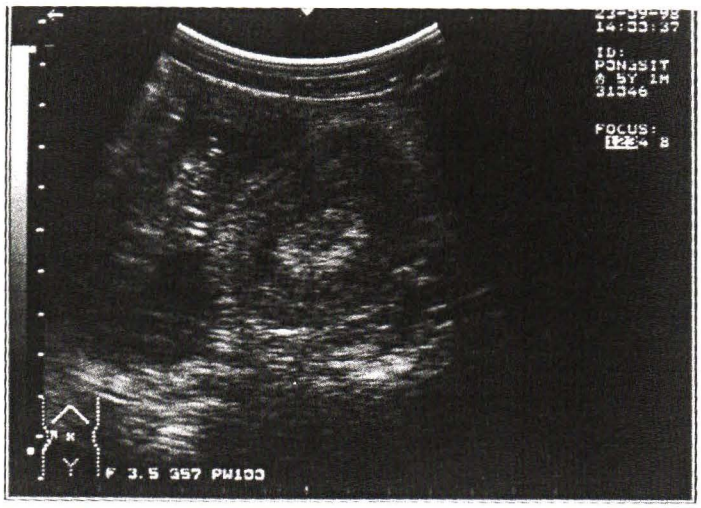

Fig. 1. Abdominal ultrasonography revealing donut lesion.

Fig. 2 Barium enema was suggestive of ileo-colic intussusception.

trophied Peyer patches in the ileum caused by viral infection stimulating hyperperistalsis in attempt to extrude the mass[6]. The authors propose that intussusception in the present report may be a result of incoordinate motility and bowel wall edema which is associated with relapsing nephrotic syndrome. There have been a few reports about intussusception associated with nephrotic syndrome. In 1992, Fitz-Henry J et al presented 2 cases of minimal change nephrotic syndrome and Drash syndrome who developed intussusception[7], while Reijnen JA et al reported an intramural hematoma acting as a leading point for intussusception associated with nephrotic syndrome[8].

In conclusion, abdominal pain is an especially common finding during the period of massive edema in nephrotic syndrome and surgical condition must be ruled out. Intussusception should be included in the differential diagnosis of relapsing nephrotic presenting with abdominal pain when a surgical condition is suspected and appropriate laboratory investigations such as abdominal ultrasonography will immediately help in the diagnosis of this condition.

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ผู้ป่วยภาวะลำไส้กลืนกันพบร่วมกับกลุ่มอาการเนโฟรติค : รายงานผู้ป่วย 1 ราย

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ผู้ป่วยที่มีภาวะลำไส้กลืนกันร่วมกับกลุ่มอาการเนโฟรติคเกิดขึ้นได้น้อยมาก จึงขอรายงานผู้ป่วยเด็กอายุ 5 ปีที่มารับการรักษาด้วยภาวะกำเริบของกลุ่มอาการเนโฟรติคร่วมกับมีอาการปวดท้อง อุจจาระเป็นมูกเลือด ผู้ป่วยรายนี้ได้รับการวินิจฉัยว่าเกิดภาวะลำไส้กลืนกันที่ตำแหน่ง ileo-colic ด้วยการ abdominal ultrasonography และ barium enema ผู้ป่วยรายนี้ได้รับการรักษาโดยการตัดลำไส้ส่วน ileum บางส่วนและไส้ติ่งออก หลังจากนั้นได้รับการรักษาด้วยเพร็ดนิโซโลน เพื่อควบคุมอาการกำเริบของกลุ่มอาการเนโฟรติค ผลการตรวจชิ้นเนื้อไตของผู้ป่วยรายนี้เข้าได้กับ mesangial proliferative glomerulonephritis หรือ IgM nephropathy

คำสำคัญ : กลุ่มอาการเนโฟรติค, ภาวะลำไส้กลืนกัน, mesangial proliferative glomerulonephritis, IgM nephropathy

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