Brief Reports

Chronic Pancreatitis in Homocystinuria

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Homocystinuria is a disorder of transsulfuration pathway characterized by increased concentration of homocysteine in blood and urine(l). The most common form of homocystinuria (classic homocystinuria or type I homocystinuria) results from reduced activity of the enzyme cystathionine-(3-synthase, which converts methionine to cysteine. Deficiency of cystathionine-p-synthase is inherited as an autosomal recessive condition and its estimated incidence varies from 1/10,000 to 1/40,000(2).

We report a child with classic homocystinuria who presented with chronic pancreatitis. To our knowledge, this is the first case report documenting this association.

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Case Report

A 7-year-old boy presented to us with complaints of diplopia and aggressive behavior since 3 to 4 months. On clinical examination the child had characteristic features of classic homocystinuria. He had a fair complexion, fine sparse brownish hair, height of 118 cm (75th percentile), arm span 125 cm, weight 23 kg (90th percentile) along with bilateral subluxated lenses, high arched palate, mild soft hepatomegaly and genu vaigum. He was born of a non-consanguineous marriage with uneventful birth history. He had delayed milestones with motor age of 90% and mental age of 40%. He was the third sib in a family of four children. No other family members had similar clinical features.

On investigation, hemoglobin was 5.5 g/dl, TLC 5,900/cu mm, P60 L35 M3 E2, and peripheral smear examination showed a macrocytic anemia with adequate platelets. Reticulocyte count was 1%, serum iron 88.5 µg/dl, serum total iron binding capacity 270 µg/dl and bone marrow examination showed evidence of megaloblastic anemia. Liver function tests were normal. Urine cyanide-nitroprusside test was positive. Plasma aminoacidogram showed homocystinuria for a diagnosis of cytathionine-p-synthasedeficiency(l).

The child received blood transfusions for his anemia and was advised a

low methionine-high cysteine diet, alongwith high pyridoxine (250 mg/, day) and folic acid (5 mg/day) supplementation. He underwent bilateral intra-ocular lens implantation for his eye problem.

One year later, at the age of 8 years, he presented to us with loose motions and persistent abdominal pain since 1 month. There was no history of abdominal trauma. Stools were yellowish, oily in appearance with a semi-solid consistency. Serum amylase was 66 U/L. Random and post prandial blood sugar levels were normal. Stool examination showed evidence of fat malabsorption. Ultrasonography of abdomen revealed a mild hepatomegaly and scattered pancreatic calcification. Serum calcium, phosphorus, and lipid profile were normal. Macrocytic anemia had persisted and child remained aggressive. With a diagnosis of chronic pancreatitis, now pancreatic enzyme supplementation (Festal) was added for his fat malabsorption, which improved the stool to normal consistency and appearance.

At age of $9^{1/2}$ years, the child was readmitted with complaints of fever, hemoptysis and persistent headache since 10 days. The child looked sick, pale, had petechiae on trunk, and a mild soft hepatomegaly. His sensorium deteriorated over the next 4 days and he died. There were no seizures, focal neurological defecit or hypertension. Investigations showed a hemoglobin of 4 g/dl, TLC 20,000/cu mm, P75, L25, reduced platelets on smear, normal serum bilirubin, SCOT 215 IU/L, SGPT 174 IU/L and markedly prolonged FT and FIT. Treatment given was intravenous fluids, fresh blood transfusions, pyridoxine and folic acid supplementation, and antibiotics (ampicillin + gentamicin). Postmortem examination showed presence of about 100 ml blood tinged fluid in peritoneal and pleural cavities, an enlarged liver, congested spleen and an atrophic pancreas with loss of normal lobular architecture. Kidneys were normal. Brain showed mild cerebral edema with scattered petechial hemorrhages and congested meninges. Lungs had evidence of pulmonary embolism.

Discussion

Our patient had evidence of chronic pancreatitis in the form of the classical triad of abdominal pain, steatorrhea and pancreatic calcification. Classic homocystinuria is frequently associated with severe vascular disease in infancy and childhood, with probability of thromboembolic events occuring before the age of 20 years being about 30%(2). The pathological accumulation of homocysteine in tissues and blood is believed to initiate premature vascular occlusive disease by damaging endothelial cells and increasing platelet adhesiveness(1,2). Thrombi and emboli have been reported in almost every major artery or vein and in many smaller vessels especially those of the brain, lungs, kidneys and heart(l -4).

In our case, no known cause of chronic pancreatitis was found. Pancreatitis is believed to be due to autodigestion caused by release of pancreatic proteolytic enzymes by "a variety of factors such as ischemia, anoxia, viral infections, endotoxins, and trauma(5). In our case, we postulate that homocysteinemia resulted in premature vascular occlusive disease involving the

pancreatic circulation, which led to ischemia, autodigestion and chronic pancreatitis.

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Melnick Needles Syndrome

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Melnick Needles Syndrome (MNS) is a hereditary skeletal dysplasia involving most of the bones, first reported in 1963. A primary biochemical defect in collagen synthesis is hypothesized to be at fault(l). Clinical features, including a typical facies, combined with characteristic radiographic features make its diagnosis relatively secure. We report the first case of MN syndrome of Indian origin.

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Case Report

A 6-year-old female child presented with complaints of cough with expectoration for 15 days. There was no history of bone pains or poliomyelitis. Clinical examination demonstrated a thin built child of normal height and intelligence, with a slightly abnormal posture. She had very prominent supra-orbital ridges, normal eyes and a small chin. There was no evidence of hemi-hypertrophy or *cafe-au-lait* spots. Respiratory and cardiovascular systems were normal. No neurological deficit was found and spine was normal. Serum calcium, phosphorous, alkaline phosphatase and