Medical versus surgical management of progressive familial intrahepatic cholestasis - PFIC

Jankowska I.[1], Pawłowska J.[1], Kaliciński P.[2], Ismail H.[2], Kamiński A.[2], Lacaille F.[3], Revillon Y.[4], Socal E.[5], Strautnieks SS[6]., Thompson R[6]., Bull L.N.[7], Socha J[1].

(1) Department of Gastroenterology and Immunology, (2) Department of Surgery and Transplantology, The Children's Memorial Health Institute, Warsaw. (3) Department of Gastroenterology and Nutrition , Necker-Enfants Malades Hospital, Paris, (4) Department of Pediatric Surgery, Necker-Enfants Malades Hospital, Paris, (5) Department of Hepatology, Catholic University, Brussels, (6) Department of Liver Studies and Transplantation, King's College London, 6UCSF Liver Center Laboratory, San Francisco General Hospital, San Francisco, CA, USA.

Pharmacological methods used so far for treating PFIC have not proved clear efficacy. Clinical and biochemical improvement was observed only in a few children treated with ursodeoxycholic acid (UDCA).

In the last decade partial external biliary diversion (PEBD) became standard procedure performed on PFIC children with no response to medical treatment. There is still a group of patients who cannot benefit from this procedure because of technical conditions (earlier performed cholecystectomy) or postoperative complications like dyselectrolytaemia due to the excessive amount of bile. In 1998 Holland *et al*. described ileal bypass (IB) as promising in PFIC children after cholecystectomy. The only treatment for children with PFIC and hepatic cirrhosis remains liver transplantation.

The aim of our study was a retrospective evaluation of different methods of treatment in children with PFIC: pharmacological therapy with phenobarbital, cholestyramine and UDCA, as well as surgical methods, PEBD, IB, as alternative methods to liver transplantation.

Material and methods

Retrospective review of records of all 59 (36 boys, 23 girls) children with PFIC was undertaken. Provisional diagnosis was established based on anamnesis, clinical symptoms (jaundice, pruritus, hepatomegaly) and laboratory findings (all children had **low** GGTP activity and high concentration of bile acids in serum). Other causes of intrahepatic cholestasis were ruled out. Diagnosis was confirmed by genetic study in 32 children (in three children PFIC type 1 was diagnosed, in 29 children PFIC type 2). Immediately after diagnosis of PFIC pharmacological therapy was started in all patients. This was the only treatment used before 1990, when liver transplant program was initiated in Children's Memorial Health Institute in Warsaw. Since 1996 we have performed PEBD and since 1998, IB.

Results

Treatment with cholestyramine and phenobarbital was ineffective. Total relief of clinical symptoms and normalisation of biochemical results were seen in 11 (22%) children out of 50 treated with UDCA. Nine patients (15%) treated only conservatively died. Liver transplantation (LTx) was performed in 13 children (including 5 patients after PEBD). Two of them died in the early posttransplant period due to postoperative complications. Eleven children after LTx are alive, with a follow-up between 2 and 11 years after transplantation. PEBD was undertaken in 28 patients (1 was converted from IB). The result of the therapy was very good in 21 (75%) pts.

Since 1998 IB has been performed on 7 children : in 4 children as the first operation – 3 were converted from PEBD (in 2 cases due to the postoperative complications of stoma (dyselectrolitemia), in 1 case due to psychological – aesthetic reasons). IB was ineffective in 5 children, one of them had later PEBD, one is now on waiting list for liver transplantation, 3 have still elevated bile acids despite UDCA therapy.

Conclusions

Medical treatment was ineffective in majority of patients with PFIC. Surgical treatment gave better results in these children. The best results were observed after partial external biliary diversion.