# Supplementary File 1. Clinical features of enrolled cholestasis controls and patients with BA. The 94 cholestasis control infants included 63 male and 31 female patients with a median age of 29.7 (61–88) days. They were all diagnosed with cholestasis (with total bilirubin >2 mg/dL) and prolonged jaundice, during the neonatal period. Six patients had undergone diagnostic cholangiography to exclude biliary atresia because of the presence of acholic stools. Eight patients were diagnosed with hepatosplenomegaly. Four patients were premature, of whom two had low birth weights. There were two full-term infants with intrauterine developmental retardation. Nineteen patients were diagnosed with growth and development retardation with length and/or weight < P3. Seventeen patients had fat-soluble vitamin D deficiency. Five patients had hypoproteinemia. Twelve patients presented with hypoglycemia and eight presented with prolonged prothrombin time. Fourteen patients had anemia. Nine patients exhibited decreased cortisol, none exhibited retarded brain development. Four patients were diagnosed with metabolism acidosis. Six patients had an umbilical hernia and two were diagnosed with hydrocele. Four patients had an atrial septal defect while two had patent ductus arteriosus. One patient had hyperammonemia, and one was found to have hypothyroidism. Two patients had cataracts. In the cholestasis controls, the medians and interquartile ranges were determined for TB [5.6 (7.1, 10.3) mg/dL], DB [4.1 (5.3, 7.3) mg/dL], ALT [70.7 (147, 300) IU/L], AST [90.3 (188, 366) IU/L], ALP [553 (598, 804) IU/L], GGT [53 (90, 200) IU/L], and TBA [53 (84.6, 125) μmol/L].

The 133 infants with biliary atresia included 54 males and 79 females with a median age of 54 (43–68) days. All had acholic stools. No hepatosplenomegaly was reported. Four patients were premature; two were postmature. Two infants were diagnosed with fetal macrosomia and two had low birth weights. Seven patients had prolonged prothrombin time that could not be corrected by vitamin K injection during their first visit. Fifteen patients were diagnosed with fat-soluble vitamin D deficiency and 18 with mild anemia. Sixteen patients had growth and developmental retardation (with length and/or weight <P3). No hypoglycemia, acidosis, or low cortisol were reported. Only one patient had hypoproteinemia. The medians and interquartile ranges for TB [9.3 (7.8, 10.9) mg/dL], DB [7.1 (5.8, 8.3) mg/dL], ALT [127 (88.5, 193.4) IU/L], AST [204 (144, 269) IU/L], ALP [573 (439, 719) IU/L], GGT [339 (191, 527) IU/L], and TBA [93 (78.2, 110.9) μmol/L] were evaluated among the biliary atresia patients.