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Percutaneous transcatheter hepatic artery embolization for liver cysts in autosomal dominant polycystic kidney disease

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BACKGROUND: We have achieved renal contraction therapy in patients with autosomal dominant polycystic kidney disease (ADPKD) by means of renal transcatheter arterial embolization (TAE) using intravascular coils, decreasing renal size and improving quality of life in almost all patients. We presently perform hepatic TAE in patients with intractable symptomatic polycystic liver. STUDY DESIGN: Uncontrolled trial. SETTING & PARTICIPANTS: 30 patients with ADPKD referred for arteriography to an academic medical center. 22 patients had kidney failure treated by means of dialysis. INTERVENTION: We embolized arteries supplying hepatic segments replaced by cysts that were associated with well-developed hepatic arteries, but obstructed intrahepatic portal veins. OUTCOMES & MEASUREMENTS: Various volumes before and after TAE were compared by using computed tomography and National Institutes of Health Image software in 30 patients with follow-up computed tomography 18 to 37 months after therapy. RESULTS: Total liver volume and total intrahepatic cyst volume decreased from 7,882 +/- 2,916 and 6,677 +/- 2,978 to 6,041 +/- 2,282 and 4,625 +/- 2,299 cm(3), respectively ($P < 0.0001$ for both). Fractions of remaining (FR) total liver volume and FR of intrahepatic cyst volume were 78.8% +/- 17.6% and 70.4% +/- 20.9%, respectively. Hepatic parenchyma increased from 1,205 +/- 250 to 1,406 +/- 277 cm(3) ($P = 0.0004$). In 29 of 30 patients, both total liver volume and intrahepatic cyst volume decreased; in 1 patient, total liver volume increased from 5,755 to 7,069 cm(3), whereas cysts enlarged from 4,500 to 5,531 cm(3). No serious complications were experienced. In 24 patients, the post-TAE course was favorable. TAE failed to benefit 6 patients because of unrelated hepatic infection, peritonitis, hepatic failure, acute leukemia, or pelvic fracture. LIMITATIONS: Absence of a control group. CONCLUSIONS: TAE may be an option for patients with ADPKD with symptomatic polycystic liver who are not candidates for surgical treatment.

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