Regression of Adult Type Polycystic Kidneys during Chronic Intermittent Hemodialysis. Is It a Universal Phenomenon?

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Dear Sir,

We followed the size of 9 polycystic kidneys in 5 patients using CT scan [1] from 23 to 52 months (36.8 ± 4.9 months; mean $\pm$ SEM). Chronic hemodialysis was performed for 5–6 h 3 times a week. 1 case was nephrectomized before the induction of hemodialysis because of traumatic rupture of the cysts. As shown in figure 1, 2 kidneys increased in size, 5 remained unchanged (within 10% change of size), and 2 decreased in size. These results do not agree with the observation by Thaysen and Thomsen [2] that polycystic kidneys underwent involution during replacement therapy and that the degree of involution did not appear to depend on the replacement therapy method (i.e. hemodialysis or renal transplantation). 1 of their 12 patients was maintained with hemodialysis only. 5 others had a longer duration of dialysis than transplantation. However, 3 of the 5 were alive on graft at the time of their study.

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Years after the start of chronic hemodialysis

Fig.1. Renal volume of polycystic kidney disease treated with hemodialysis.

• Right kidney A Left kidney

Our observations on the regression of acquired cystic disease of the kidney after successful renal transplantation [3] indicate that the involution of polycystic kidneys during replacement therapy might occur mainly not by hemodialysis (except for the first 3 years) but by successful renal transplantation [4,5].

Our results suggest that polycystic kidneys maintained with chronic long-term hemodialysis are not always significantly reduced in size but in some cases increase in size. Whether the increased or unchanged renal size of polycystic kidneys on long-term dialysis is related to complicated acquired cystic disease of the kidney in long-term dialysis [1] deserves further study.

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