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Catheter-based renal denervation as therapy for chronic severe kidney-related pain.

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Abstract

BACKGROUND: Loin pain haematuria syndrome (LPHS) and autosomal dominant polycystic kidney disease (ADPKD) are the most important non-urological conditions to cause chronic severe kidney-related pain. Multidisciplinary programmes and surgical methods have shown inconsistent results with respect to pain reduction. Percutaneous catheter-based renal denervation (RDN) could be a less invasive treatment option for these patients.

METHODS: Our aim was to explore the change in perceived pain and use of analgesic medication from baseline to 3, 6 and 12 months after RDN. Patients with LPHS or ADPKD, who experienced kidney-related pain ≥ 3 months with a visual analogue scale (VAS) score $\geq 50/100$ could be included. Percutaneous RDN was performed with a single-electrode radiofrequency ablation catheter.

RESULTS: RDN was performed in 11 patients (6 with LPHS and 5 with ADPKD). Perceived pain declined in the whole group by 23 mm ($P = 0.012$ for the total group). In patients with LPHS and ADPKD, the median daily defined dosage of analgesic medication decreased from 1.6 [interquartile range (IQR) 0.7-2.3] and 1.4 (IQR 0.0-7.4) at baseline to 0.3 (IQR 0.0-1.9; $P = 0.138$) and 0.0 (IQR 0.0-0.8; $P = 0.285$) at 12 months, respectively. Mean estimated glomerular filtration rate decreased in the whole group by 5.4 mL/min/1.73 m² at 6 months compared with baseline ($P = 0.163$).

CONCLUSIONS: These results suggest that percutaneous catheter-based RDN reduces pain complaints and the use of analgesic medication in patients with LPHS or ADPKD. The present results can serve as the rationale for a larger, preferably randomized (sham) controlled study.

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