

Plasma renalase concentration before and after radiofrequency renal denervation in patients with resistant hypertension: preliminary results

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BACKGROUND

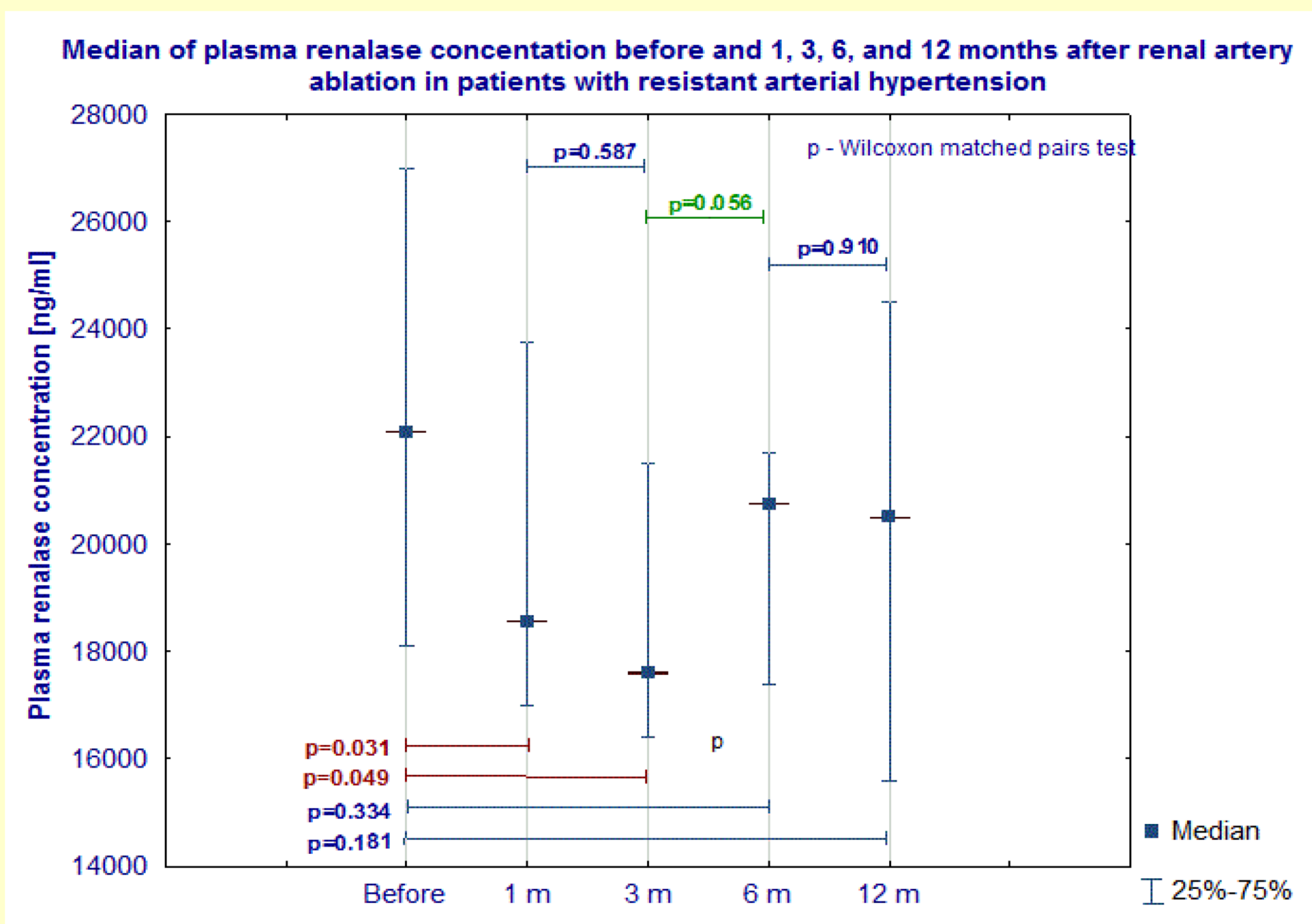
Renalase is a catecholamine-metabolizing enzyme produced by proximal tubular cells in kidney which is supposed to be involved in blood pressure regulation. The aim of the study was to evaluate plasma renalase concentration after radiofrequency renal denervation (RDN) in patients with resistant arterial hypertension (HTN).

METHODS

19 patients (10 men; median age 56 (48; 57) years; BMI 30.9±4.4 kg/m² and eGFR 89±17.7 ml/min/1.73 m²) with resistant HTN were enrolled in the study. In all patients plasma renalase concentration was measured before and 1, 3, 6 and 12 months after RDN by ELISA method (Cloud-Clone Corp, Houston, USA).

RESULTS

A significant decrease of both office systolic and diastolic blood pressure 6 months after RDN was found (from 192 ± 31 to 177 ± 28 mmHg, p=0.03; and from 113 ± 23. to 99 ± 21 mmHg, p=0.002, respectively). One and 3 months after RDN plasma renalase concentration decreased significantly, with a subsequent return to values comparable to baseline at 6- and 12-month follow-up (data presented on the figure below; Friedman analysis of variance p=0.054).



CONCLUSIONS

1. RDN leads to the temporary decrease of plasma renalase concentration in patients with HTN. 2. Lower plasma renalase concentrations seem to reflect a counteract reaction to blood pressure decline obtained after RDN.

