

Letters to the Editor

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Urinary abnormalities following karate (kumite) competitions

Sir,

Recently, our group conducted a supplementary study on urinary abnormalities following karate (kumite) competitions in professional female athletes. In a previous issue of *NDT Plus* [1], our group presented data showing significantly increased proteinuria of a mixed type (albumin and beta2-microglobulin or B2M) with prominence of albumin, as a glomerular urine protein, in 18 professional (18–21 years) male karatekas. This recent study has focused on 17 healthy (16–25 years) female karatekas, who volunteered to participate in the study, in order to detect karate-induced urinary abnormalities. The competitions were held with similar characteristics of three rounds of 1.5-min duration which had been interspaced with a 10-min resting interval. Urine samples were collected just before the match and 24 h thereafter to measure total urinary protein, albumin, B2M, sodium, potassium and calcium levels. All values were compared with pre-exercise 24-h urine values. There was significantly increased mixed-type proteinuria (total protein of 190.01 ± 92.54 vs. 68.6 ± 45.51 mg/day, $P = 0.001$; albumin of 30.07 ± 28.81 vs. 3.71 ± 2.3 mg/day, $P = 0.001$; and B2M of 0.0702 ± 0.0135 vs. 0.015 ± 0.01 mg/day, $P < 0.01$) compared with basal levels. Furthermore, similar to previous study, daily urinary electrolytes (sodium 121.65 ± 20.40 vs. 118.21 ± 21.25 , $P = 0.825$; potassium 41.53 ± 10.80 vs. 43.59 ± 11.86 , $P = 0.426$; and calcium 190.88 ± 80.44 vs. 182.76 ± 87.33 , $P = 0.755$) excretions did not change significantly following the competitions. Urinary glucose in both pre- and post-exercise urine samples was not found. Based on the aforementioned data, it seems that karate (kumite) competition in both genders does not have significant influence on some urinary electrolyte and substance excretions. This finding may be attributed to appropriate tubular transport, short duration of competitions, adequate hydration of athletes and efficacious regulatory mechanisms in order to maintain normal blood levels [2]. However, because of the intensity of this exercise which results in sympathetic stimulation, the glomerular permeability and protein excretion may be changed [3,4]. We recommend further researches on karate-induced urinary abnormalities.

Conflict of interest statement. None declared.

¹Nephrology, University of Social Welfare and Rehabilitation Sciences, Tehran Iran

Suzan Sanavi¹
Mona Sarhadi²
Reza Afshar³

²Sport Physiology, Azad University, Tehran Iran
³Department of Nephrology, Shahed University, Tehran Iran

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Therapy refractory hypertension in haemodialysis patients has become a rare indication for bilateral nephrectomy

In haemodialysis patients, blood pressure (BP) is usually plasma volume-dependent.

Ultrafiltration during haemodialysis typically leads to reductions in plasma volume and body weight with a consequent lowering of elevated BP. However, in few cases, hypertension is refractory to reductions in plasma volume and to therapy with multiple antihypertensive drugs. In some patients, BP will increase even during volume depletion [1]. In these few patients, bilateral nephrectomy (BN) is an option for treatment [2].

We evaluated 16 haemodialysis patients [aged 37 (22–69) years, female 44%] in whom BN was performed due to severe or malignant hypertension with poor response to antihypertensive treatment (refractory hypertension). All patients were on haemodialysis in our dialysis centre during the years 1984–2008. Mean BP was significantly elevated even though the patients received ≥ 4 antihypertensive drugs. The aim of our retrospective study was to evaluate the efficacy and the frequency of needed BN. We compared BPs before and every 3 months following BN for an entire year.

At 12 months after BN, mean systolic BP decreased from 194 ± 18 to 132 ± 12 mmHg, and diastolic BP decreased from 118 ± 10 to 82 ± 9 mmHg ($P < 0.005$). Near-normal BP values were observed within a mean of 2–3 months after BN. BP persistently decreased in 14 cases after nephrectomy, but rebounded in two cases because of hypervolaemia due to 10% body weight gain during intradialytic intervals.