

Yoga and diet change influence renal functions in the obese

Comment to:

Renal consequences of obesity

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Dear Editor,

The description of the renal consequences of obesity [1] was of interest, as it has been clinically observed that obese persons with none of the diseases often associated with obesity (such as hypertension or type 2 diabetes mellitus) often present with symptoms suggestive of renal dysfunction. The connection between obesity and renal function is complex [1]. Adipose tissue functions as an endocrine organ secreting hormones and cytokines, including leptin, which may trigger sodium retention. Apart from this, in obesity excess visceral adipose tissue may physically compress the kidneys increasing intrarenal pressure and tubular re-absorption.

Previously we reported that a one week yoga and diet change program reduced, among other measures, the BMI, serum leptin levels, and the waist circumference [2]. The decrease in waist circumference may be of significance as the waist circumference is known to correlate with visceral obesity [3].

The blood urea levels and serum creatinine were measured in 12 obese persons (BMI >25 kg/m²) at the beginning and end of a one week yoga and diet change program, comparable to that studied earlier [2]. They had no other disease but had symptoms suggestive of renal dysfunction (such as difficulty in micturition and swelling of the face and/or feet). The 12 persons ages ranged between 18 and 44 years and

there were 9 males. Before yoga their group average blood urea levels were 188.25±74.97 mg/dl, and after a week of yoga and diet change the levels reduced to 161.20±71.50 mg/dl, [p<.05 (one-tailed), Wilcoxon signed ranks test]. Their serum creatinine levels did not change, with a group average level of 8.15±3.44 mg/dl before yoga, and a level of 8.58±4.35 mg/dl after yoga. However all twelve obese persons showed less pedal edema and reported less difficulty in micturition. They also showed an average decrease in BMI by 1.2 Kg/m² and a decrease in waist circumference from 0.84 cm to 0.74 cm (which was not significant) after the week of yoga practice.

Hence daily yoga practice for an hour along with a diet high in fiber and low in saturated fat, with complex carbohydrates, approximating 1300 Kcal/day, can possibly help obese persons with renal dysfunction. This may be by reducing visceral fat as well as by reducing the levels of substances such as leptin [2].

Sincerely,
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