

RENAL FUNCTION IN PATIENTS WITH CHRONIC PYELONEPHRITIS AND DIABETES MELLITUS: EFFECTS OF MAGNETIC INFRARED LASER THERAPY

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Diabetes mellitus is one of the most common diseases. Concurrent pyelonephritis in diabetes patients is often asymptomatic and results in renal failure of various severity. This study involved 216 patients with diabetes mellitus.

Of these, 102 (47.2 percent) had type 1 (insulin-dependent diabetes); 70 (68.6 per cent) were women and 32 (33.4 percent) were men.

A group with insulin-independent diabetes mellitus (type 2) comprised 114 (74.6 percent) of patients: 29 men (25.4 percent) and 85 women (52.8 percent). The patients ranged in age from 17 to 75 years. Disease durations were one 1 to 30 years. Chronic pyelonephritis was diagnosed in all.

Patients with type 1 and 2 diabetes were enrolled in two groups homogeneous in age, sex, and disease duration.

Group 1 received antibacterial and detoxication therapy. This therapy was combined with magnetic infrared laser (MIL) treatment using a MILTA device in group 2.

Renal function was evaluated by measurements of serum urea and creatinine levels, Reberg-Tareyev tests, radioisotope renography and spectroscopic determination of urinary elimination kinetics of 5-NOC drug.

The clinical and instrumental studies revealed renal dysfunction in all 102 patients with type 1 diabetes. Grade 1 functional impairment was seen in 60 patients (58.8 percent), grade 2 in 15 (14.7 percent), grade 3 in 22 (21.6 percent) and grade 4 in 5 (9 percent) of the patients.

Of 114 patients with type 2 diabetes, renal functional disorders had grade 1 in 50 (43.8 percent), grade 2 in 21 (18.4 percent), grade 3 in 26 (22.8 percent) and grade 4 in 4 (6.1 percent) of the patients.

MIL therapy was added to antibacterial, antiinflammatory and detoxication therapy of 50 patients with insulin-dependent diabetes and 60 patients with insulin-independent diabetes. MIL therapy was not conducted in 52 patients with type 1 diabetes and 54 patients with type 2 diabetes (controls).

Renal function was evaluated before and after therapy. Its improvement was seen in 8 (16 percent) patients with type 1 diabetes treated with MILTA and 3 (5.8 per cent) of controls. Renal function significantly improved in 42 (70 percent) of MIL-treated patients with type 2 diabetes as compared with 16 (32 percent) untreated patients.

CONCLUSIONS

These findings suggest that MIL therapy appreciably improves renal function in patients with diabetes mellitus, especially insulin-independent type, with beneficial effects on its progress and on efficacy of chronic pyelonephritis treatment.