EFFECT OF MIRTAZAPINE IN DIALYSIS PATIENT WITH APPETITE LOSS

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INTRODUCTION

Depression is the most common psychological complication which occurs in hemodialysis patients.

More importantly, depression significantly increase the risk of mortality and hospitalization in hemodialysis patients.

In patients undergoing chronic hemodialysis therapy, depression is related closely to nutritional status and is considered to be an independent risk factor for malnutrition.

Low oral intake and the activation of pro-inflammatory cytokines may be associated with increase in the mortality.

However, treatment for anorexia has not been well established.

Mirtazapine has an excellent appetite improvement effect among therapeutic agents of depression, thus we examined whether mirtazapine improved nutrition and appetite in dialysis patients with depression and appetite loss.

METHODS

Among 160 patients undergoing maintenance dialysis at Yokohama Minami Clinic, 65 patients with anorexia and a tendency for depression participated in this study.

These patients were allocated into the mirtazapine group (n=31) and the non-administrated group (n=34).

Patients in the mirtazapine group received 15 mg/day of mirtazapine.

We examined the dry weight, PCR, serum total protein (TP) concentration, serum albumin concentration, as an index of nutritional condition, in both groups for up to six months.

	Mirzatapin group	Control group
Number of the patients	31	34
Male/Female	16/15	19/15
Age(year)	73. 3±8.8	70.5±10.6
Dauration of HD(month)	93.1±89.1	115.4±62.8
Causative disease of renal failure		
Chronic glomerulonephritis	8	6
IgA nephritis	0	2
Diabetes mellitus	11	12
Hypertension	6	7
Polycystic kidney disease	3	0
Goat	0	2
Unknown	3	5

Table1.
Background of the patients

RESULTS

Dry weight was not changed in the control group from 58.07±11.56 kg to 58.15±11.15 kg (P=0.39), but it significantly increased from 51.5±9.8 kg to 52.5±10.1 kg in the mirtazapine group (P=0.04).

As for the PCR, no change was noted in the control group from 0.86±0.11 to 0.83±0.10 (P=0.30), but it significantly increased from 0.80±0.11 to 0.86±0.14 in the mirtazapine group (P=0.01).

The serum TP concentrations significantly decreased from 6.53±0.50g/dl to 6.39±0.50g/dl in the control group (P=0.02), but significantly increased from 6.46±0.53g/dl to 6.63±0.48g/dl in the mirtazapine group (P=0.01).

Serum albumin concentrations significantly decreased from 3.73±0.24g/dl to3.65±0.22g/dl in the control group (P=0.01), but it significantly increased from 3.48±0.28g/dl to 3.57±0.30g/dl in the Mirtazapine group (P=0.02).

The mortality rate was significantly decreased by increasing protein intake.

	control group			mirtazapine group		
	0M	6M	p value	0M	6M	p value
Dry weight	58.07±11.56	58.15±11.15	0.39	51.5±9.8	52.5±10.1	0.04
n-PCR	0.86±0.11	0.83±0.10	0.3	0.80±0.11	0.86±0.14	0.01
Total Protein	6.53±0.50	6.39±0.50	0.02	6.46±0.53	6.63±0.48	0.01
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Table2. The change of the nutrition index.

CONCLUSIONS

Mirtazapine showed a noticeable improvement in dry weight, PCR, serum TP concentrations, and albumin concentrations, suggesting that mirtazapine administration helps patients improve their quality of life and survival rate of hemodialysis.

Future research needs to be done to assess whether treatment of depression by mirtazapine administration may help to improve the quality of life and survival rate of hemodialysis patients.

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