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INTRODUCTION

- ❑ Hyperuricemia is linked to increased risk of cardiovascular disease as demonstrated in some studies.
- ❑ Febuxostat demonstrated significant efficacy in reducing serum uric acid among patients with normal and moderately impaired kidney function.
- ❑ The aim of this study is to investigate the efficacy of using febuxostat for the treatment of hyperuricemia in hemodialysis patients.

METHODS

Nineteen hemodialysis patients were enrolled in this study from hemodialysis patients in the Dialysis unit at new Jeddah hospital

Inclusion criteria:

- a) Age above 18 years
- b) patients on maintenance hemodialysis
- c) hyperuricemia (Uric acid level above 6.0 mg/dL in females and 7.0 mg/dL in males)

Exclusion criteria:

- a) drugs for hyperuricemia therapy within the last three months,
- b) recent change of EPO or other drug known to increase uric acid e.g. frusemide.

Precautions:

Patients using allopurinol ➡ discontinued two months before enrollment in this study.

Intervention:

Febuxostat 40 mg tab PO every other day for three months

Measurements: (before and after the study)

Urea reduction rate, serum uric acid, electrolytes, liver function test, complete blood count, intact parathyroid hormone and other blood chemistry tests were measured.

RESULTS

	Before	After	95% Confidence Interval		P
Uric acid (mg/dl)	8.87 ± 0.89	6.79 ± 0.55	1.72	2.45	0.00
URR (%)	63.53 ± 6.29	62.05 ± 7.22	-3.92	6.87	0.57
ALT (U/L)	31.63 ± 4.49	34.26 ± 4.32	-3.71	-1.55	0.00
AST (U/L)	23.49 ± 6.18	23.47 ± 5.57	-0.67	0.70	0.96
Sodium (mmol/l)	140 ± 4.0	139 ± 3.0	0.17	2.23	0.03
Creatinine (mg/dl)	8.94 ± 2.16	8.96 ± 2.07	-0.15	0.11	0.76
Hemoglobin (gm/dl)	9.77 ± 0.83	10.24 ± 0.58	-0.79	-0.17	0.00
Bicarbonate (mmol/l)	24.51 ± 2.30	24.63 ± 1.54	-1.00	0.76	0.78
Ferritin (ng/ml)	1,092 ± 403	1,054 ± 404	25.63	48.93	0.00
iPTH (pg/ml)	555 ± 245	537 ± 232	-19.00	54.33	0.32
Phosphorus (mg/dl)	9.59 ± 2.82	9.42 ± 2.79	0.10	0.24	0.00
Alkaline phosphatase (u/l)	97.76 ± 31.70	97.53 ± 31.06	-0.47	0.94	0.49

- ❑ Serum uric acid level was decreased by a mean of 2.0 ± 0.7 mg/dL, about -31% from baseline (P < .001)
- ❑ Serum alanine transferase level was increased by a mean of 2.6 ± 2.2 U/L (P < 0.001),.
- ❑ Urea reduction rate decreased after study from 63.5 ± 6.2 % to 62.0 ± 7.2 %. However, this reduction was statistically insignificant (P =.57).
- ❑ There were significant statistical differences in serum sodium, ferritin, phosphorus, and hemoglobin (p < .0001).
- ❑ There were no particular adverse reactions reported by the patients, e.g., headache, rashes, allergy, or dizziness.

CONCLUSIONS

Febuxostat may be useful to reduce serum uric acid among hemodialysis patients with hyperuricemia. However, a larger study may be warranted.

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