



Shaping Tomorrow's Nephrology: Insight-Driven Kidney Care

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Long-term Impact of Regular Intravenous Nutrient Therapy (Fursultiamine, Placental Extract, Glutathione, and Glycyrrhizin) on Renal Function and Nutritional Status: A 1-Year Retrospective Study Including a CKD Subgroup

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Objectives : Intravenous nutrient therapy (IVNT)—commonly comprising fursultiamine ("garlic"), human placental extract, glutathione ("jade"), and glycyrrhizin ("licorice" injections)—is widely used in real-world practice for fatigue recovery. However, long-term safety data regarding its impact on renal function, especially in patients with underlying chronic kidney disease (CKD), remain scarce. This study evaluated the 1-year safety profile and nutritional benefits of this specific IVNT combination.

Methods : We retrospectively analyzed 35 patients who received regular IVNT (fursultiamine, placental extract, glutathione, and glycyrrhizin) at 1-2 month intervals for over a year. Renal (eGFR, Cr) and nutritional (Hb, Albumin) parameters were evaluated at baseline and after 1 year. Individual changes ($\Delta = \text{Post} - \text{Pre}$) were analyzed using the Wilcoxon signed-rank test. A subgroup analysis was performed on patients with baseline $\text{eGFR} \leq 60 \text{ mL/min/1.73m}^2$ ($n=7$) to assess the risk of renal deterioration.

Results : In the overall cohort, the mean eGFR Δ was $+0.56 \pm 7.97 \text{ mL/min/1.73m}^2$, with 60.0% of patients showing maintained or improved eGFR ($p=0.588$). Notably, in the CKD subgroup ($n=7$), renal function did not deteriorate; rather, mean eGFR increased from 41.83 to 46.64 ($\Delta +4.81$, $p=0.219$), and serum Cr decreased from 1.86 to 1.69 mg/dL ($\Delta -0.17$, $p=0.109$). Regarding nutritional status, the mean hemoglobin Δ was $+0.41 \pm 0.78 \text{ g/dL}$. 80.0% of the total patients exhibited maintained or elevated Hb levels, demonstrating a statistically significant improvement ($p=0.002$).

Conclusions : Long-term regular administration of fursultiamine, placental extract, glutathione, and glycyrrhizin demonstrated an excellent renal safety profile without aggravating kidney function, even in high-risk patients with baseline CKD stage 3 or higher. Furthermore, the significant elevation in hemoglobin levels suggests that this IVNT combination substantially contributes to overall nutritional improvement.

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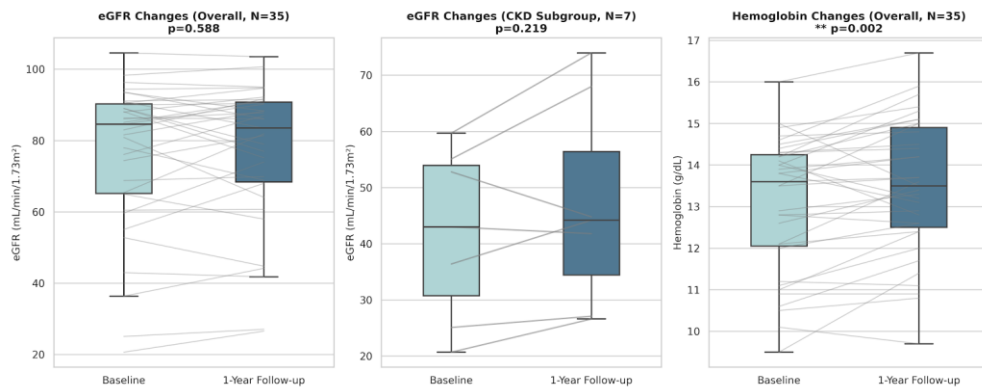
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Table 1. Changes in Renal and Nutritional Parameters After 1-Year IVNT

Parameters	Baseline (Pre)	1-Year Follow-up (Post)	Mean Change (Δ)	p-value
Overall Cohort (N = 35)				
eGFR (mL/min/1.73m ²)	76.17 $\pm$ 20.80	76.73 $\pm$ 19.95	+0.56 $\pm$ 7.97	0.588
Serum Cr (mg/dL)	1.12 $\pm$ 0.48	1.07 $\pm$ 0.42	-0.05 $\pm$ 0.17	0.195
Urine P/Cr (mg/gCr)	121.56 $\pm$ 152.80	220.46 $\pm$ 576.07	+98.90 $\pm$ 432.81	0.106
Hemoglobin (g/dL)	13.07 $\pm$ 1.62	13.49 $\pm$ 1.64	+0.42 $\pm$ 0.78	0.002*
Serum Albumin (g/dL)	4.29 $\pm$ 0.26	4.26 $\pm$ 0.28	-0.04 $\pm$ 0.21	0.219
CKD Subgroup (N = 7)†				
eGFR (mL/min/1.73m ²)	41.83 $\pm$ 15.34	46.64 $\pm$ 18.06	+4.81 $\pm$ 8.16	0.219
Serum Cr (mg/dL)	1.86 $\pm$ 0.76	1.69 $\pm$ 0.71	-0.17 $\pm$ 0.22	0.109

* Data are presented as Mean $\pm$ Standard Deviation. p-values were calculated using the Wilcoxon signed-rank test.

† CKD Subgroup includes patients with baseline eGFR $\leq$ 60 mL/min/1.73m².