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Effects of Oral Granisetron Treatment on Uremic Pruritus

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Abstract: The present study aimed to investigate the efficacy, safety, and tolerability of orally administered granisetron, a 5-HT_3 receptor antagonist, and its possible effect on serum histamine and serotonin levels in uremic pruritic patients who have not yet undergone dialysis. Fourteen patients with newly diagnosed end-stage renal disease were asked to complete a questionnaire about pruritus, and histamine, serotonin, PTH and cortisol levels were measured on days 0, 7 and 14. Granisetron (1 mg) was administered twice daily for 2 weeks. Plasma histamine levels were found to be up to 7 times higher in all patients and they did not change significantly during the study. Serum serotonin levels decreased significantly on days 7 and 14 of the study in women compared with men ($P < 0.05$). There was no significant change in the histamine X serotonin values except for the decrease in men on day 14 of the study ($P < 0.05$). Pruritus scores decreased at the end of the study compared with the beginning but this was not statistically significant. However, the decrease in pruritus scores in women on days 7 and 14 vas statistically significant ($P < 0.05$). Pruritic uremic patients with end-stage renal disease and have not been undergone any of the renal replacement therapies, were found to have markedly elevated plasma histamine levels. Granisetron was found to be effective particularly in newly diagnosed female uremic patients.

Key Words: Renal failure, pruritus, granisetron, histamine, serotonin

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