A Study of Intestinal Motility in Experimental Uremia and Effect of Erythropoietin

THESIS
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قال تعالى :

بسم الله الرحمن الرحيم

{ وَقُلِ اعْمَلُوا فَسَيَرَى اللَّهُ عَمَلَكُمْ وَرَسُولُهُ وَالْمُؤْمِنُونَ }

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To

My mother and my son

For their limitless support, for
their patience and understanding,
and for their love.

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LIST OF ABBREVIATIONS

ARF	Acute renal failure
ATP	Adenosine Triphosphate
CRF	Chronic renal failure
eNOS	Endothelial nitric oxide synthase
EPO	Erythropoietin
GFR	Glomerular filtration rate
GSH	Glutathione
NO	Nitric oxide
SOD	Superoxide dismutase
TNF	Tumor necrosis factor

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Although gastrointestinal complications are common in patients with renal disease, studies demonstrating the effects of renal dysfunction on bowel motility are conflicting. Diarrhea and constipation are reported in patients with end-stage renal disease *(Etemad, 1998)*.

Disturbed small intestinal motility might explain diarrhea in some patients with chronic renal failure *(Strid et al., 2003)*. Conversely, colonic transit was found to be prolonged in long-term hemodialysis patients *(Wu et al., 2004)*.

Though there is large number of available literatures on gastrointestinal dysfunction in chronic renal failure; little studies are devoted to the disturbed intestinal function in acute uremia and the underlying mechanisms are poorly understood.

Erythropoietin (EPO) is used in the therapy of patients with renal failure suffering from anemia *(Cody et al., 2001; Nemoto et al., 2001)*. It was shown to reduce the degree of diarrhea and the degree of colonic injury in mice with experimental colitis *(Cuzzocrea et al., 2004)*.

It was, therefore, of interest, to study the patterns of altered intestinal motility in acute renal failure and to investigate the possible effect of erythropoietin on these changes.

Aim of Work

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This study was performed to investigate the intestinal motility changes in experimental acute renal failure induced by gentamicin. Also the possible protective effect of pretreatment with erythropoietin was studied.