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Evaluation of anti-inflammatory and analgesic activities of some newly synthesized pyrazole derivatives

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NSAIDs are associated with several side effects such as gastrointestinal mucosal damage, renal toxicity and cardiovascular side effects. Aiming to find a novel analgesic/anti-inflammatory drug with minimal side effects, the present study was designed to screen and evaluate some newly synthesized pyrazole derivatives. Anti-inflammatory activity, COX-1/COX-2 selectivity, analgesic as well as ulcerogenic and renal side effects of the compounds were assessed. The results of the carrageenan-induced rat paw edema showed that the carboxyphenylhydrazone derivative, was more potent than the chlorophenyl counterpart with a relative activity compared to celecoxib of 1.08 and -0.13, respectively after 1 hour. Moreover, the carboxyphenylhydrazone derivative had good analgesic activity but caused significant increase in the ulcer index, creatinine and BUN levels.The cotton granuloma test showed that cyano derivatives of pyrazole have good anti-inflammatory activity. Adding an acetyl group on C28H12N6SO2 not only increased the anti-inflammatory activity from a relative activity compared to celecoxib of 0.57 to 1.17 in the granuloma test, but also increased the selectivity toward COX-2 from 0.197 to 47.979. As a conclusion, from the ten compounds analyzed, three compounds showed to be the most effective ones as analgesic/ anti-inflammatory agents with low ulcerogenicity and nephrotoxicity.

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Hyperphosphatemia in end stage renal disease patients undergoing maintenance hemodialysis at a tertiary care hospital in Ras Al Khaimah, UAE

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The objective of the study was to assess the prevalence of hyperphosphatemia in end stage renal disease patients (ESRD) undergoing maintenance hemodialysis at a tertiary care hospital in Ras Al Khaimah, UAE. The study also aimed to describe the characteristics of the ESRD patients with hyperphosphatemia. The study was a prospective, observational study including all the patients undergoing hemodialysis at the nephrology unit of the hospital. Patients who were on hemodialysis for less than six months, with less than thrice weekly hemodialysis and with acute kidney injury were excluded from the study. Patients' characteristics were compared according to phosphatemia level, between patients with or without hyperphosphatemia Of the 80 patients included (mean age, 61.1 ± 9.4 years), 73.8% had hyperphosphatemia, defined by a mean serum phosphate > 1.45 mmol/L. Patients with hyperphosphatemia were younger and had a higher BMI than those with normal phosphate levels, and more often women. They were more likely to have hypertensive and diabetic nephropathy, and had less co-morbidity. The study showed that ESRD patients with hyperphosphatemia differ from those with normal phosphate levels.

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