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Conclusions: induced MKP-1 expression was inhibited by exogenous GC to allow the development of specific steroid-sparing therapies. Identification of factors regulating GC-sensitivity in MIF macrophages demonstrated a 3-fold increase in sensitivity to DEX-induced expression of the endogenous MAP kinase inhibitory protein MKP-1 in MIF cells. In contrast, DEX-induced MKP-1 expression was inhibited by exogenous recombinant MIF.

Results: 3 infected rheumatology patients in the Canterbury region were confirmed. 2 of these patients were women, receiving oral methotrexate for rheumatoid arthritis. The third patient, a man with Wegener's granulomatosis was receiving oral cyclophosphamide. 1050 patients were prescribed methotrexate over the same 5 year period and 53 were treated with cyclophosphamide. Data on demographics, duration of treatment, use of PJP prophylaxis and lymphocyte counts were analysed.

Conclusions: The 5 year period prevalence of PJP in rheumatology patients receiving immunosuppressant treatment with methotrexate or cyclophosphamide was low, despite minimal use of prophylactic treatment. Our results indicate that routine PJP prophylaxis is not required in this patient group.

Results: Plasma urate decreased from baseline (mean ± sd, 0.30 ± 0.05 mM) when both allopurinol (0.17 ± 0.06 mM, p < 0.001) and probenecid (0.15 ± 0.06 mM, p < 0.001) were administered individually for 1 week. Co-administration caused a further decrease in plasma urate to 0.09 ± 0.02 mM. Despite the greater effect of the combination on urate concentrations in plasma, co-administration of allopurinol with probenecid substantially (45%) decreased the average steady-state concentration of the active metabolite, oxypurinol (9.4 ± 2.4 mg/L, allopurinol alone; combination, 5.0 ± 1.0 mg/L, p < 0.001).

Conclusions: The combination of allopurinol and probenecid had a greater effect on plasma urate than either drug alone, despite plasma oxypurinol concentrations decreasing by almost half when they were co-administered to healthy subjects. Studies in patients with gout are warranted in order to better understand and optimise therapy with this combination.

Results: DEX significantly and dose-dependently inhibited LPS-induced TNF in both wt and MIF−/− macrophages, but MIF−/− macrophages demonstrated a 3-fold increase in sensitivity to DEX (P < 0.0001). No differences in any parameter of NF-kappaB activation in response to LPS or DEX were detected between wt and MIF−/− cells. In contrast, DEX induced a significant and selective reduction in phospho-p38 MAP kinase in MIF−/− cells which was not observed in wt cells. This was accompanied by significant increased sensitivity to DEX-induced expression of the endogenous MAP kinase inhibitory protein MKP-1 in MIF−/− cells. DEX-induced MKP-1 expression was inhibited by exogenous recombinant MIF.

Conclusions: We have demonstrated that endogenous MIF regulates sensitivity to GC and report a novel mechanism for this observation. Identification of factors regulating GC-sensitivity may allow the development of specific steroid-sparing therapies.