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## Complementary and alternative medicinal use of vechur cow urine in cyclophosphamide induced immunosuppressed mouse model

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Vechur cattle (*Bos indicus*), is the smallest breed of cattle originated in the hot and humid southern part of Indian peninsula. Vechur cow urine has been traditionally used as a complementary and alternative medicine for immunomodulation in immunodeficiency diseases and to reduce the side effects of cancer or cancer chemotherapy. But scientifically conducted analysis or animal studies have not been performed yet. In the present study, the immunomodulatory effects of Vechur cow urine was investigated in normal as well as immunosuppressed mouse model and compared with that of crossbred cow (*Bos indicus* × *Bos taurus*) urine. The modulating effect was evaluated on humoral and cell mediated immune response using Swiss-albino mice. The cow urine distillate was administered orally at the dose rate of 10.8 ml/kg body weight for 19 days. Immune system was suppressed by intraperitoneal administration of cyclophosphamide at the dose rate of 30 mg/kg body weight. The Vechur cow urine showed pronounced immuno protective activity by significantly ( $p \leq 0.05$ ) increasing the total leukocyte count, lymphocyte count, HA titre, number of antibody producing cells, BMC (bone marrow cellularity) and DTH (delayed type hypersensitivity) responses in both normal and immunosuppressed mice and this effect was superior when compared to crossbred cow urine. The results indicate that Vechur cow urine significantly reduced the cyclophosphamide induced immunosuppression by stimulating both cellular and humoral immunity which need further investigation to validate the results clinically and to make use of the Vechur cow urine in cancer treatment and in immunodeficiency diseases such as AIDS. Hence, we demonstrate the synergy of Vechur cow urine with chemotherapy in alleviating the side effects such as deregulated apoptosis and immunosuppression.

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