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Enhancement of antigen specific Immunoglobulin G and M following *in vivo* treatment of combined hot water extract of *Coriandrum sativum* L. and *Coscinium fenestratum* G. in rats

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The combined hot water extract (HWE) of *Coriandrum sativum* L. (Family: Umbelliferae) and *Coscinium fenestratum* G. (Family: Menispermaceae) has been used in Sri Lanka for relief of pain, inflammation and cold for centuries. Our previous *in vivo* studies have shown that oral administration of HWE enhanced the antibody titers against sheep red blood cell (SRBC) antigens shown by SRBC agglutination. The aim of the present study was to determine the immunostimulatory activity of HWE of *C. sativum* and *C. fenestratum* by assessment of antigen [Bovine serum albumin (BSA)] specific IgG and IgM antibodies using indirect ELISA. The test group was orally administered with the human equivalent dose (176.7 mg/kg) of HWE and the control was treated with water (2.0 ml). All animals were immunized with BSA on day 1 and 15, sera were collected at weekly intervals. Anti-BSA IgG and IgM antibody levels were compared using both OD_{450} values of 1:100 serum dilutions and anti-BSA IgG and IgM antibody titers of day 7 and 21 sera. The day 7, 14 and 21 IgG levels in the test group were 0.256 ± 0.089, 0.834 ± 0.125 and 1.520 ± 0.094 showing a significant increase, reached a peak level on day 21 and remained high till day 35 (1.272 ± 0.0573). The IgG levels of the test group were significantly high throughout the study period compared to the control (0.116 ± 0.036 – 0.542 ± 0.155) ($P < 0.01$).In the test group, the IgG titers of day 21 sera were also significantly high compared to that of the control (6400 and 656; $p = 0.011$). In contrast, the anti-BSA IgM antibodies of test group reached its peak level by day 7 (0.544 ± 0.087) and was significantly high compared to that of the control group (0.311 ± 0.039; $p = 0.036$). However, the day 7 IgM titers of test and control were comparable. In conclusion, oral administration of HWE of *C. sativum* and *C.fenestratum* had a significant immunostimulatory effect which is reflected by the antigen (BSA) specific IgG and IgM antibody response. These results also show a significant boosting of IgG response indicating an adjuvant effect by the HWE treatment.

Keywords: *Coriandrum sativum*, *Coscinium fenestratum*, immunostimulation, Immunoglobulin G, indirect ELISA

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