CONTACT DERMATITIS AND OCCUPATIONAL DERMATOSES

INCREASE IN CONCENTRATION OF ALLERGEN DECREASES OCCLUSION TIME OF PATCHES - A TIME-DOSE RELATIONSHIP FOR PATCH TEST REACTIVITY!

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Introduction: Patch test is gold standard for detecting contact allergy. Conventionally, patches are applied for 48 hours and readings taken on day 2, 4 and 6/ 7. We evaluated if increase in concentration of allergen can decrease patch test occlusion time.

Objective: To evaluate the patch test reactivity using increased concentrations of parthenium extract with occlusion times of 12, 24 and 48 hours in patients of parthenium dermatitis.

Materials and Methods: Patch test confirmed patients of parthenium dermatitis were included in the study and patch tested with 5 different concentrations (1:10, 1:25, 1:50, 1:100 and 1:200) of parthenium acetone extract. Three sets (set 1, 2 and 3) of such patches were simultaneously applied and removed after 12, 24 and 48 hours respectively, and readings taken after 24 and 48 hours.

Results: There were 50 patients, 37 males and 13 females, aged between 23-80 years (mean: 50.78 + 11.44 years), having disease for 2-40 years (mean duration: 10.92 + 9.03 years). With increase in concentration of allergen from 1:200 to 1:10, the patch test positivity increased from 22(44%) to 33(66%) ($p=0.027$) and 21 (42%) to 38 (76%) ($p=0.001$) in set 1 and 2 respectively, at 24 hours reading. Similarly the positivity rates increased from 24 (46%) to 42 (84%) ($p<0.001$), 23 (46%) to 42 (84%) ($p<0.001$) and 33 (66%) to 44 (88%) ($p=0.009$) in set 1, 2 and 3 respectively, with similar increase in concentrations, at 48 hours reading. However, the positivity rates amongst the three sets at any given concentration were comparable ($p>0.134$).

Conclusions: The study therefore, demonstrated that with increased concentration of allergen the occlusion time of patches can be reduced to 12 or 24 hours instead of usual 48 hours without affecting the positivity rates. Further studies are however, needed to confirm our results.