Authors' reply

Sir,

We appreciate your[1] interest in our letter.[2] We know, beyond doubt, that dinitrochlorobenzene (DNCB) has shown mutagenicity in the Ames test with the salmonella typhimurium plate assay.[3] The Ames test is used to test a chemical / drug for mutagenicity, and is named after its developer, Bruce Ames.[4]

The use of the Ames test is based on the assumption that any substance that is mutagenic (for the bacteria used in this test) may also turn out to be a carcinogen. Although, in fact, some substances that cause cancer in laboratory animals (Dioxin, for example) do not give a positive Ames test (and vice-versa).

However, drugs like norfloxacin, Isoniazid, and PUVA (psoralen), textile dyes, and fumes of oils have also been found to be mutagenic by the Ames test. Nevertheless, these drugs and chemicals are widely used world wide. The most potent mutagenic agent in the early trials of the Ames test is parsnip juice. DNCB was found to be noncarcinogenic when fed in large doses to rats, mice, guinea pigs, and man.[5]

The immunomodulatory effects of topical DNCB are well known and can be used in patients with HIV,[6] verruca vulgaris, verruca plana and recurrent warts,[7,8] and nodular prurigo.[9] DNCB therapy is being used in HIV patients for the last 10 years, and the only reported toxicity has been localized dermatitis at the application site.[6]

On account of unknown etiology and an unpredictable course, treatment of alopecia areata is palliative. Topical immunotherapy by contact sensitizers is an effective and accepted therapeutic modality in the treatment of chronic severe alopecia areata. Treatment with dinitrochlorobenzene is cost-effective, its response rate varies from 60 – 80%, it is easy to apply, and is painless, with easily tolerable side effects. However, both DPCP (Diphenyl cyclopropenone) and SADBE (squaric acid dibutyl ester) are expensive.[10]

To conclude, DNCB remains a useful contact sensitizer in alopecia areata and warts.

Mohan Kudur, C. Balachandran, S. D. Shenoi, Ragavendra Rao, H. Sripathi, Smitha Prabhu

Department of Skin and STD, Kasturba Medical College, Manipal, India

Address for correspondence: Dr. Mohan Kudur, Department of Skin and STD, Kasturba Medical College, Manipal-576 104, Udupi Dist, Karnataka, India. E-mail: mohankudur@rediffmail.com

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