Comments on Photosensitivity in Leprosy

To the Editor:

Lalit Bhutani in the last issue of the IJL (45:67) has noted the relative sparing of the underside of the chin and the circumocular region and the upper lip in lepromatous patients and the more severe involvement of the malar eminence, the forehead, and the chin. He attributes this variation to the possible effect of photosensitivity.

Sabin (Arch. Neurol. 20 [March 1969]; and IJL 37 [1969]) describes the same pattern of involvement, measured by loss of sensation and showed that both on the face and also in the areas of the body that are ordinarily clothed the degree of sensory loss followed the pattern of local body temperature variations, the cooler areas being severely involved and the warmer areas being relatively spared, thus confirming the observations of Brand (IJL 27 [1959] 1-7).

I enclose a thermograph (cool areas dark, warm areas light) of a normal face (my own) which clearly shows the cool chin, nose, and malar area and the warmer underside of the chin, orbit and lips. The eyebrows are black because hair always shows black in a thermogram.

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Comparative DNA Binding Studies with Clofazimine and BI912

To the Editor:

BI912 is a phenazine quinoneminine that was synthesized by Barry and co-workers (1) and subsequently recommended as an analog of clofazimine (B663) for possible screening of antileprosy activity in man (1,7). The compound was active against Mycobacterium leprae in the mouse foot pad assay (2) as well as inhibiting the growth of M. leprae murium (3). Like clofazimine, BI912 will accumulate in the tissues of rodents (2,3) particularly in the skin, when added in powder form to the diet. It has been found in this laboratory that at a concentration of 0.05% by weight in the diet, rapid skin pigmentation will occur in the mouse in a three to four day period.

Following the observation that clofazimine will form complexes with DNA from various sources, including human (4), it was of interest to compare the relative interaction of clofazimine versus BI912 with this important macromolecule. The degree of interaction was measured with a spectrophotometric assay (5) of the amount of upfield red shift that took place in the spectrum of clofazimine or BI912 following complexing to DNA. The upfield red shift resulted from the interaction of the heterocyclic phenazine quinonoidal ring with the nucleotide bases of the DNA strand. The assays were carried out in 0.01 M tris-HCI buffer, pH 7.0, at 22°C with DMSO added at 10% (v/v) to maintain the compounds in solution. Clofazimine or BI912 was added at a final concentration 2 x 10^-6 M and dialyzed DNA was present at 250 μg per ml. The upfield red shifts were measured in a Cary 14 recording spectrophotometer (5).

It was found that, like clofazimine, BI912 interacted with DNA's from various sources with upfield red shifts and hypochromic spectral changes in the absorption peak at...