LETTERS TO THE EDITORS

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Photographic Record of Follicular Keratosis

In the treatment of some types of skin disease, during which progress may be relatively slow, only slight changes in the appearance of the skin occur between successive examinations, even when these are spaced several weeks apart. This makes the effect of the treatment difficult to observe visually. It has been suggested that a photographic method of recording the progress in such cases may be of value.

In the study of follicular keratosis (folliculosis), a special photographic technique is required to give a sufficiently good rendering of the texture of the skin, as in this case the irregularities of the surface are small in size, and do not differ appreciably in colour from the surrounding area. It is also necessary to devise an apparatus which will enable such a technique to be applied with all conditions kept constant so that any changes in the appearance of the skin will be shown readily.

Various means of recording folliculosis photographically have been tried in this Laboratory, including the use of ultra-violet and infra-red; the most promising results so far have been obtained by the following methods:

(*a*) By illuminating the surface with a small point source, the light from which strikes it at a grazing angle of incidence, so that sharp shadows of the elevated areas on the skin are produced.

(*b*) By illumination at a more nearly vertical angle of incidence. In this case, as the shadows are much less pronounced, the film must be developed to a high degree of contrast to show the markings on the skin.

The two methods appear to be complementary, as certain details are shown up in one case which may not be seen in the other.

A portable apparatus has been developed using a Leica camera fitted with an extension tube to enable close-up photographs to be taken, by both methods of illumination. While the apparatus has been designed to minimize the relative movement between the patient and the camera, nevertheless the exposure time should be as short as possible to prevent the definition from being impaired by any involuntary movements of the patient. The camera lens must also be stopped down to a small aperture to give an adequate depth of focus, as the surface of the arm or leg under observation is usually rounded. For both reasons, a high level of illumination of the skin is required.

Fig. 1. APPARATUS FOR PHOTOGRAPHY OF FOLLICULAR KERATOSIS.

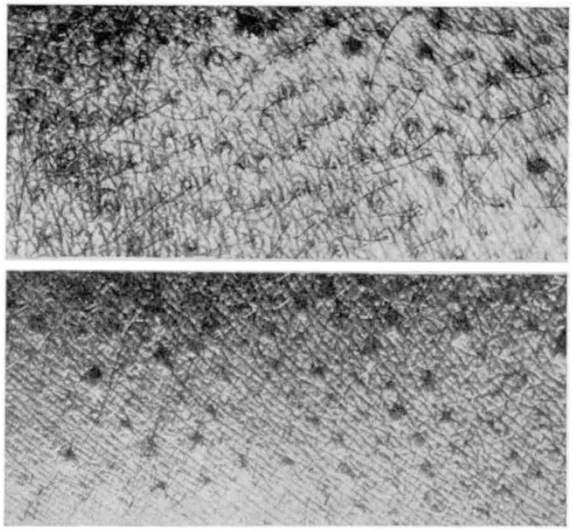

Fig. 2. PHOTOGRAPHS OF FOLLICULAR KERATOSIS ON DARK SKIN. ABOVE, FLAT LIGHTING; BELOW, OBLIQUE LIGHTING. × 1·6.

A Mazda 250-watt box type *ME* lamp (a mercury vapour lamp with a small source of high brightness) is used as the source for oblique illumination, while a 250-watt photo-flood lamp mounted in a reflector provides the illumination for the second method. Satisfactory exposures are obtained with 0·5 sec. at an aperture of *f*·18 with a panchromatic film having a speed of 23° Scheiner with oblique illumination. With the photo-flood lamp, which is about 6 inches from the surface of the skin, a similar exposure is quite satisfactory, using in this case Kodak Microfile film.

The conditions of lighting on the skin of the patient are kept constant by fixing the lamps in relation to the camera. A rectangular aperture covering the whole field of view of the camera is attached to it at such a distance from the lens that all within the field is in accurate focus. The lamps, camera and aperture are mounted on a framework which can be adjusted into any position. In using the apparatus, it is arranged so that the aperture surrounds, and its sides touch, the area of skin which is to be photographed.

The apparatus is shown in operation in Fig. 1, and some typical photographs taken with the two methods of lighting are shown in Fig. 2.

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