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ACNEFORM DERMATOSIS PRODUCED BY ORTHO
(2 CHLOROPHENYL) PHENOL SODIUM
AND TETRA-CHLORPHENOL SODIUM

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The condition to be described resembles none described in the literature except the "chlor-acne" described by Prosser White. A preliminary report is made because of the fact that recently the use of the drugs under consideration was recommended for treatment of fungous infections in man.

Twenty-one cases have been observed. In seventeen the disorder was severe enough to require treatment. The patients treated were all young white men. Most of them were aged from 19 to 23; one was 34.

The chemicals which I later found to be causative were used in a mixture. The first acne-like eruption appeared one month after the products were manufactured in a powder form. All the men exhibiting the condition were employed in sacking the mixture. The disorder here described developed within the next six months after contact with the chemicals.

I have seen four laboratory workers who had a milder, more localized reaction after working with dichlorinated phenyl. Their reaction closely resembled the disorder described by Jack Jones, of Atlanta, Ga.

In the cases which form the basis of this report the essential lesions were predominantly papulofollicular and were associated with marked hyperkeratosis. Enormous numbers of comedones and numerous sebaceous cysts were present. In some cases comedones were so numerous as to produce a black discoloration. Secondary pustular lesions from the size of a pea to that of a chestnut were observed. The eruption began with a few papules behind the ears; then it spread to the forehead, cheeks, chin and back of the neck. The scalp was not involved. Involvement of the shoulders, presternal region, upper portion of the arms and buttocks was seen in five cases. Two patients who had acne of the face previously showed in addition involvement of the abdomen, penis, scrotum, anterior surfaces of the thighs and flexor surfaces of the forearms. The hands or feet were not affected.

In one case the early stage of the disorder was diagnosed as dermatitis papillaris capillitii both by me and by a reputable dermatologist who saw the patient independently. At that time we did not suspect an industrial causation.



Fig. 1.—Full length view showing the widespread involvement. Anteriorly, the face, presternal areas, abdominal wall and penis showed similar scars but fewer active lesions.

The twenty-one patients were removed from the plant concerned to other work more than fifteen months ago, but none has completely recovered. The process, especially in those treated with roentgen rays, is less active, but some papules and comedones persist. Severe scarring

of the pitted variety seen in ordinary acne is common. Several patients have recurrent crops of new lesions at varying intervals. In a few patients who had no lesions when removed from the source of contact a severe reaction developed as late as from three to five months after



Fig. 2.—Photograph made eighteen months after the beginning of the dermatosis. This youth, aged 19, had not worked with the chemicals concerned during the past fifteen months. He had been treated with the usual "acne lotions," fractional roentgen radiation, saline solution and sodium thiosulfate. Roentgen treatment proved most effective, but besides the numerous scars, comedones, papules and pustules remained. The face and anterior portions of the body showed similar scars but only a few active lesions.

exposure. A number of these men have lost weight and complain of being easily fatigued.

Laboratory tests for possible impurities in the products gave negative results. Examination of the urine for bromides and iodides revealed

none. Patch tests with the mixture produced an immediate caustic action owing to the excess of sodium hydroxide present, but this was not a specific reaction. Patch tests with the pure chemicals, i. e., ortho (2 chlorophenyl) phenol sodium and tetra-chlorphenol sodium, produced a positive reaction to the former but not to the latter drug. This reaction was simply an irritation response and was not due to specific sensitivity, as evidenced by the fact that tests on controls produced the same reaction. The contact dermatitis produced did not resemble the acneform dermatosis and cleared up spontaneously within a few days. Biopsies were requested but refused.

SUMMARY

I have observed twenty-one cases of an acneform eruption resembling the tar acne or the "chlor-acne" described by Prosser White. These eruptions occurred in persons handling a mixture of ortho (2 chlorophenyl) phenol sodium and tetra-chlorphenol sodium. Only persons handling the finished products were affected. These men did not handle or come in contact with any by-products. Other men working in the same building but not coming into direct contact with the aforementioned agents remained unaffected. In some patients the disorder developed several months after exposure had ceased. No reactions occurred in persons who had not been exposed to the chemicals concerned. Patch tests failed to show any epidermal sensitization. Therapy proved helpful but not curative.

My observations in these cases indicate that ortho (2 chlorophenyl) phenol sodium and tetra-chlorphenol sodium are capable of producing severe acneform eruptions on the human skin. These drugs should not be used as fungicidal agents until further investigation reveals the mechanism whereby they produce this dermatosis. I should like to discover whether the reaction is purely cutaneous or whether there is damage to internal organs. I am of the opinion that a constitutional reaction is involved, and I hope that a solution may throw some light on the etiology of true acne. I hope that further observation and experimentation with animals will enable me to make a later report concerning this disorder.