

POISON OAK DERMATITIS. STUDIES ON HEMATOLOGIC, URINARY AND TEMPERATURE CHANGES¹

H. J. TEMPLETON, M.D., C. J. LUNSFORD, M.D., H. V. ALLINGTON, M.D.

Oakland, California

Contact dermatitis from poison oak is common among the students of the University of California. This is due to the proximity of the campus to the coast range of mountains which abound with *rhus diversiloba* and to the many student activities in the hills such as botany trips, surveying, hikes, and picnics. Many of the cases are so severe as to require hospitalization. This gave us an opportunity to study the effect of severe poison oak dermatitis upon the temperatures and blood counts of the patients.

One hundred and six patients had to be hospitalized, the sexes being exactly equally divided. The age group was that of university students, most being between 19 and 22 years of age. The youngest was 16 years and the oldest 30 years of age. Of 79 patients who could give an exact date of exposure the first lesions were noted within 24 hours by 54 patients. Nineteen patients noted the first lesions within two to four days following exposure. One patient each noted lesions first on the sixth, seventh and ninth day, respectively.

In sixty of the patients the dermatitis required three to five days from onset to reach its greatest intensity. However, it continued to increase for 10, 11 and 12 days in three patients.

These 106 patients spent a total of 592 days in the hospital, about $5\frac{1}{2}$ days per patient. Most were there for 4 to 6 days. Three required 12 days, one 13 days and one 15 days.

In our studies of the temperature changes and blood counts we were careful to exclude all cases where other illness could influence these factors. This included any patient whose record showed any notes in regard to rhinitis, inflamed fauces, gastrointestinal complaint or any question of secondary pyogenic infection of the dermatitis. Excluded were all cases in which either internal or external medication directed against infection was used; such as gentian violet antiseptic soaks, sulfa drugs or penicillin.

TEMPERATURE CHANGES

Seventy-one patients developed peaks of temperature from 98.8 to 100. Eight peaks between 100 and 101 were recorded. Only two patients had peaks between 101 and 102. In no case did the temperature reach 102.

HEMATOLOGIC STUDIES

White and differential blood counts were done on 103 of the patients.

The following are the white blood counts in the 55 patients who had counts of 8000 or above:

¹ From the University of California, Cowell Memorial Hospital, Berkeley, California. Received for publication September 17, 1946.

<i>White Blood Count</i>	
<i>Number of patients</i>	<i>WBC</i>
19	8-9,000
12	9-10,000
5	10-11,000
9	11-12,000
4	12-13,000
3	13-14,000
2	14-15,000
0	15-16,000
1	16,000

There was no definite relationship between patients with leucocytosis and those with fever.

The differential blood counts were strikingly normal except for the eosinophilia to be mentioned below. There was no evidence of bone marrow depression. Even in those patients with the higher leucocyte counts the differential counts were relatively normal. For example, the patient with the highest total count, 16,000, had a normal differential count.

Thirty-five patients had eosinophile counts of five to ten per cent. Ten had ten to fifteen per cent of eosinophiles. One had fifteen per cent and one twenty per cent of eosinophiles. There was no demonstrable relationship between those patients with eosinophilia and those patients with fever.

URINALYSES

Urinalyses done on all of these patients gave essentially normal findings.

COMMENT

An increase in the leucocyte count above 8000 (taken as a high normal) occurred in 55 of 103 patients. This is in line with our experience that any severe inflammation of the skin increases the total count. But it is important to note that the differential count does not change at the same time, as it is apt to do in case of systemic infection. The high eosinophile count is also in line with our findings in other types of inflamed pruritic dermatoses.

SUMMARY

In severe poison oak dermatitis very little systemic reaction takes place. About four-fifths of the patients reacted with slight fever. About half had a mild leucocytosis and about half had a moderate eosinophilia. The urines of all patients were normal.