

Failure of Somatotrophic Hormone (STH) to Counteract Cortisone Action on Wounds in Mice.* (20348)

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Cortisone treatment interferes with inflammatory processes as reflected in inhibition of wound healing(1). Selye(2) reports that a pituitary gland fraction, somatotrophic hormone (STH) counteracts enhancing effect on infection produced by cortisone in rats. We therefore proceeded to determine whether STH neutralized the cortisone effect on wound healing in mice. It should be mentioned that in Selye's(2) study, cortisone and STH were used for 14 days, whereas in this study this combination was used for 6 days.

Uniform sized wounds were made under aseptic technic through the cleanly shaven dorsal skin using a special surgical punch, which created two 0.5 cm wounds on each mouse. Groups of 12 mice each were treated: 1) Diluent only; 2) Cortisone 1 mg; 3) STH 1 mg (Armour—Lot No. R285128); 4) Cortisone 1 mg and STH 1 mg. All injections were intramuscular and started 24 hours before wounding and given daily for 5 days thereafter and the mice sacrificed on the 6th day after wounding. Wound areas were observed grossly, excised, formol fixed, sectioned and stained with hematoxylin and eosin for histological study. In addition, all animals

were autopsied and the spleen size of the various groups compared.

Findings. There were no significant differences between the cortisone and cortisone with STH treated groups. The wounds in both of these groups showed inhibition of wound healing as compared with the untreated controls and the STH treated mice. The criteria for determining the degree of wound healing were grossly the size of the wound and histologically the amount and character of granulation tissue formation and the degree of re-epithelialization. The latter two groups (STH treated and untreated) did not differ from each other.

Examination of spleen size in the various groups showed that the cortisone exerted its usual effect on reducing the size of the spleen. The addition of STH did not prevent this phenomenon.

Summary. 1. 1 mg daily of somatotrophic hormone does not counteract the effect of 1 mg daily of cortisone on wound healing in mice. 2. 1 mg of somatotrophic hormone daily does not effect wound healing in mice as compared with untreated controls.

1. Spain, D. M., Molomut, N., and Haber, A., *Science*, 1950, v112, 335.

2. Selye, H., *Fed. Proc.*, 1952, v11, 144.

* The authors express gratitude to Armour and Co. for STH and to Merck and Co. for cortone acetate suspension.

Received May 15, 1953. P.S.E.B.M., 1953, v83.