surgical trauma or post-operative hemoconcentration were in any non-specific way responsible for the observed marked increments of this activity in the operated rats. Our conclusions concerning the role of the liver are thus in agreement with those of Jeffries(6) and the Spitzers(9) which were based on diminution of the LCA of heparinised or post-heparin plasma after its perfusion through the liver. Our results are also in harmony with the recent clinical findings of increased *in vivo* LCA production in patients suffering from hepatic cirrhosis and chronic alcoholism(10) and the report that liver and kidney extracts inhibited LCA *in vitro*(11).

Summary. 1) Plasma from heparin-injected hepatectomized, CCl_4-cirrhotic and nephrectomized rats exhibited significantly greater lipemia clearing activity than that of heparin-injected normal control animals, when incubated with lipemic plasma *in vitro*. 2) These results represent indirect evidence for the presence of a clearing factor inactivating system in liver and kidney.

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Reticulo-Endothelial Blockade and Capillary Resistance Response to Cortisone and STH.* (24594)

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There have been several investigations of the effect of reticulo-endothelial blockade on ACTH and cortisone induced eosinopenia. Of these, only one concluded that RE blockade diminished eosinopenic response(1). Others denied any difference in hormone induced eosinopenia(2,3,4). One of the latter, however, did note that RE block abolished eosinopenic response to various stresses(2). Kramar and associates showed a marked negative correlation between eosinopenic and capillary resistance responses to exogenous cortisone(5,6); eosinophil count decreasing as capillary resistance rises. These investigators also showed that STH causes a decrease in capillary resistance and this was verified by Wilhelmj *et al.* (7). We used capillary resistance for this investigation because of simplicity of method and because it makes possible the study of effect of RE block on this phase of STH activity.

Materials and methods. Control levels of capillary resistance were established on 14 trained dogs, 7 males and 7 females. Of these,

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TABLE I. Effect of R. E. Block on C.R. Response to Small Doses of Cortisone.

Dog	C.R. (cm Hg) Control*	Cortisone, pre-block*	Cortisone, post-block*	P
I ♂	21 ± 2.20	34 ± 0.25	23 ± 1.41	>.10
II ♀	35 ± 2.32	70	35 ± 1.73	
III ♂	21 ± 3.78	70	18 ± 1.97	
IV ♀	14 ± 1.59	26 ± 1.15	16 ± 2.32	<.05
V ♂	12 ± 1.71	20 ± 2.12	17 ± 1.61	<.01
VI ♀	11 ± 2.47	21 ± 3.39	17 ± 1.53	"
Mean	19 ± 8.23	40 ±18.5	21 ± 6.90	>.10

P values refer to differences between control and post-block values.
* Mean and stand. dev.

6 were given 1 mg of cortisone§/kg/day intramuscularly until capillary resistance stabilized at an elevated level. Injections were discontinued and after capillary resistances returned to control level they were given 1 mg of STH‖/kg/day intramuscularly until they reached a stable lower level. Injections were discontinued and after capillary resistance returned to control level, each dog was given daily intravenous injections of 5 cc India ink¶ diluted with 10 cc of 0.9% saline (1 unit) until total of 1 unit/2.5 kg body weight had been given. Weight of these dogs varied from 8.6 to 14.2 kg. Cortisone and STH regimens were then repeated. To determine duration of block, cortisone regimens were repeated at various intervals. Eight dogs were given 3 mg of cortisone/kg/day for 5 days, then 6 mg of cortisone/kg/day for 4 additional days. They were then given one unit of India ink/day until total of 8 to 10 units had been administered. Each was then given same doses of cortisone for same length of time as given before block. Capillary resistance was determined by negative pressure technic of Kramar and Simay-Kramar(8).

Results. Before blockade all dogs receiving smaller doses of cortisone (1 mg/kg/day) and STH, demonstrated marked rises of CR with cortisone and falls with STH. In every case differences between control and pre-block values showed P<.01 (Tables I and II).

§ Schering.

‖ Somatrofin (Beef) Horner Montreal (Lots # GE-5 and C35-42D)

¶ Pelikan (C11/1431A) Gunther-Wagner Hanover, Germany.

After blockade values after same dose of cortisone were significantly less than before blockade in every dog. When compared to control values, post-block values were significantly elevated statistically in 3 dogs (IV, V, VI) but were unchanged, diminished, or insignificantly elevated in 3 dogs (I, II, III) (Table I). In all 6 dogs, values after STH were not significantly lower than control values (Table II).

All 8 dogs receiving high doses of cortisone, 3 mg/kg/day for 5 days and 6 mg/kg/day for additional 4 days, showed a similar pattern. The C. R. rose markedly before India ink was given. After India ink it rose to level significantly below the pre-block value but significantly higher than control value (Table III).

TABLE II. Effect of R. E. Block on C.R. Response to STH.

Dog	C.R. (cm Hg) Control*	STH, pre-block*	STH, post-block*	P
I ♂	21 ± 2.20	12 ± 2.60	23 ± 2.02	
II ♀	35 ± 2.32	21 ± 2.00	33 ± 2.32	>.10
III ♂	21 ± 3.78	10 ± 1.83	20 ± 2.34	"
IV ♀	14 ± 1.59	6 ± 1.15	13 ± 1.86	"
V ♂	12 ± 1.71	8 ± 0.89	15 ± 2.14	
VI ♀	11 ± 2.47	6 ± 1.10	14 ± 2.48	
Mean	19 ± 8.23	10 ± 5.45	20 ± 7.28	"

P values refer to differences between control and post-block values.
* Mean and stand. dev.

The time after block that dogs showed diminished responses to small doses of cortisone varied from less than 43 to more than 107 days.

TABLE III. Effect of R. E. Block on C.R. Response to Large Doses of Cortisone. Differences B minus A, B minus C, and C minus A have probability of <.01 for each dog and for the group.

Wt, kg	Capillary resistance (cm Hg) Control (A)*	Cortisone, pre-R.E. block (B)*	Cortisone, post-R.E. block (C)*
♂ 12.3	9 ± 1.2	22 ± 1.5	14 ± 1.0
♂ 10.4	10 ± 0.9	25 ± 1.2	16 ± 1.1
♀ 12.4	11 ± 1.8	28 ± 1.2	16 ± 1.4
♀ 9.9	11 ± 1.3	24 ± 1.7	18 ± 1.1
♀ 13.	7 ± 2.3	19 ± 1.8	14 ± 0.9
♀ 6.2	16 ± 1.3	25 ± 1.7	19 ± 1.7
♂ 7.3	16 ± 1.4	32 ± 2.2	27 ± 0.8
♂ 10.5	16 ± 1.4	32 ± 2.2	26 ± 1.9
Mean	12 ± 2.6	26 ± 4.6	19 ± 4.9

* Mean and stand. dev.

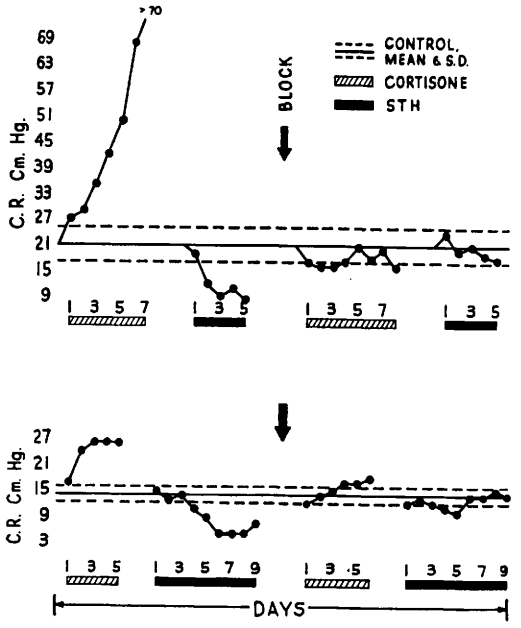

FIG. 1.

Discussion. It has been shown that RE block increases susceptibility of animals to various stresses(9,10,11). With this and the role of corticoids in stress, the work of Kramar *et al.* seems especially interesting. The latter investigators have shown that locally applied cortisone does not increase capillary resistance in the area, unless the animal is stressed(12). They concluded that tissues responsible for capillary resistance become sensitized to cortisone by stress. Results of present experiments suggest that the RE system may be responsible for this sensitization. If this is the case, then the manner in which stress produces its effects may be by causing the RE system to sensitize tissues to glucocorticoids and they, in turn, cause typical tissue and organ response to stress. The manner in which the RE system exerts its effect is not known but the fact that RE block diminishes capillary resistance response to both cortisone and STH suggests that it occurs at tissue level.

Summary. It is shown that blocking the RE system with India ink diminishes or abolishes capillary resistance response to cortisone and STH. That large doses of cortisone can overcome the block suggests that the RE system functions by increasing sensitivity of tissues to cortisone.

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