tention of the profession to the hormonal findings obtained in these 2 clearcut cases, with the hope that this test (high female sex hormone excretion in the absence of positive pregnancy reaction) may serve as a means of recognizing adrenal cortical tumors at an early and operable stage. Perhaps this test will also serve in differentiating them from the "basophilic pituitary adenomas" if further observations prove that their presence does not produce the same overexcretion.*

7504 C

Importance of the Spleen as a Reservoir for Erythrocytes.

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One of the modern conceptions of the physiology of the spleen is to regard this organ in human beings and in animals as a reservoir which is able under different conditions to pour red blood cells into the circulation (Lauda[1]). The discrepancy of the results obtained by various authors (Lauda and Haam, Radosaljevic and Sekulic, Testoni[2] and others) concerning the appearance or nonappearance of adrenalin polycythemia in splenectomized animals makes the supposition acceptable, that other organs or organ systems substitute sooner or later the erythrocyte-storing function of the spleen.

The methods of our experiments were simple. Three dogs and 3

* Since this paper was handed in for publication, 10 further cases which showed at least some of the symptoms of so-called basophilic adenoma—all of them hirsutes, 4 with increased blood pressure, 3 with striae, were examined with negative results. These included 3 cases obtained through the kindness of Drs. Wilder and Snell of the Mayo Clinic, 2 in whom cortical adenomas of the adrenal had been removed some time previously, the patients remaining well; and one in whom cortical hyperplasia was found at operation, the urine obtained just before operation. All proved negative. These findings make me all the more anxious to have the profession apply the test in order to determine whether the high female sex hormone titer in the urine is limited to cases with metastases, similar to the large amount found in testicular tumors not containing chorionepithelioma, when general dissemination occurs.

[1] Lauda, E., Physiologie der Milz, Urban & Schwarzenberg, Wien, 1933.

[2] Lauda, E., and Haam, E., *Z. f. exp. Med.*, 1932, **80**, 640; Radosaljevic and Sekulic, *Wien. Arch. f. inn. Med.*, 1930, **20**, 81; Testoni, A., *Arch. internat. Pharmacodyn.*, 1930, **37**, 1.

puppies were splenectomized and kept under observation for 18 months following the operation. Before the splenectomy the degree of the adrenalin polycythemia in the peripheric bloodstream was determined in 2 consecutive examinations, and the same test was repeated shortly after the animals had recovered from the splenectomy and thereafter at regular intervals. Care was taken that the animals were kept under healthy physiological conditions with plenty of freedom and exercise. Two of the splenectomized puppies died 3 and 5 months respectively after the splenectomy, of intercurrent diseases. Because of their illness and subsequent death the results of their tests have been discarded entirely from our charts. The other animals remained healthy and are being kept for further observation. The postoperative anemia, which could be observed in a mild degree in all of our operated dogs, disappeared after 2 or 3 months.

The results of our experiments are reported at this time because no changes in the curve of the peripheric hematocrit values following adrenalin could be observed for the last 6 months. The technic of the test for the acute polycythemia in the peripheric blood circulation following adrenalin injection was the same as reported in previous experiments. Each test was made under the same conditions and with chloralose as the anesthetic. Since the results of the experiments on our 4 surviving dogs were rather uniform, as can be seen from Table I, the curves of Dog W may be taken as a good example for the entire experiment.

It can be seen that the highest rise in the hematocrit value following adrenalin injection could be observed before the operation. Shortly after splenectomy adrenalin was not able to produce polycythemia. Eighteen months after the operation, however, the hematocrit value of the peripheric blood showed a distinct increase after the intravenous injection of adrenalin.

The results obtained on all 4 dogs during the 18 months of observation are summarized in Table I.

In all 4 dogs the presence of acute polycythemia following adrenalin injection could be demonstrated after splenectomy. In some

TABLE I.
Maximal Increase of the Hematocrit Value after Adrenalin (Per Cent.)

Dog	Before Splenectomy	Months after Splenectomy: ½	1	2	5	7	9	12	15	18
B	15.9	2.4	0.8	1.4	2.5	6.8	6.8	5.4	7.2	8.9
C	8.2	—0.5	1.8	2.8	5.7	4.5	6.9	5.8	6.1	6.0
W	9.7	1.1	2.5	1.7	4.6	3.2	6.7	6.8	5.8	5.9
P2	11.6	2.1	1.9	4.8	7.9	6.4	7.9	8.7	8.1	10.4

dogs this could be shown as early as 5 months after the spleen had been removed; in others the polycythemia appeared later. In none of the animals did it reach the same height as observed before the operation. The highest value of adrenalin polycythemia could be observed in the splenectomized puppy (P_2).

Conclusions. Repeated examinations of the hematocrit value of the peripheric blood following the intravenous administration of adrenalin in 4 dogs before and for a period of 18 months following splenectomy could demonstrate that (1) the acute polycythemia following adrenalin which is regularly observed in the normal dog disappears after splenectomy; (2) after that period the polycythemia returns but does not reach the same degree as in the normal dog. These results suggest a slow substitution of the erythrocyte-storing function of the spleen by another capillary system.

7505 C

Conditions of the Halo Formation Around Subtilis Colonies and Growth of Halo Transplants.

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An interesting phenomenon was described[1] which certain *B. subtilis* strains show when grown on nutrient agar containing a small amount of saccharose. The amorphous, stringy material which is present in abundance in the cultures as an intercellular substance spreads out from the colonies and forms a wide halo around them. In the halo bacteria are not visible and transplants of it do not grow on the usual media. Transplanted on agar plates containing saccharose the halo substance grows in tiny transparent colonies. The observations described in the following note[2] furnish convincing evidence that these growth phenomena are caused by the growth of living elements entirely different in morphology from the usual forms of bacteria.

The observations here described concern the conditions under which the halo develops and which determine the abundance of growth in the transplants.

[1] Dienes, L., PROC. SOC. EXP. BIOL. AND MED., 1932, **29**, 1205.

[2] Dienes, L., PROC. SOC. EXP. BIOL. AND MED., 1934, **31**, 1211.