titers of the suprarenalectomized animals were between two and three times higher than those of the controls.

SUMMARY

These studies indicate that recently suprarenalectomized rats may succumb to one-twentieth of the dose of standard typhoid vaccine which normal rats readily withstand. Further, it has been shown that consideration of the time factor is important since animals tend to compensate for a suprarenal insufficiency by hypertrophy of accessory or unremoved portions of the main glands. Failure to take these features into consideration accounts in large part for the conflicting statements that have appeared in the literature. Finally, the fact that recently suprarenalectomized animals show a much higher antibody response to a given dose of antigen than do normal animals, clearly indicates that the suprarenal glands play a more important rôle in immunologic reactions than has heretofore been suspected, and it is our belief that this phenomenon is principally associated with the cortex or interrenal gland.

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The acid-base balance in pneumonia.

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As a part of the study being made of the respiratory and metabolic disturbances occurring in pneumonia, the acid-base balance and the arterial oxygen unsaturation of pneumonia patients have been determined. Thirty observations have been made on 16 patients. The pH was determined directly by Cullen's colorimetric method and checked in 12 instances by electrometric measurements. The CO_2 content, O_2 content and O_2 capacity were determined on the Van Slyke constant volume blood gas apparatus. The analyses to be reported were performed on arterial blood drawn at least once from each patient during the

height of the disease and in some instances in the post-febrile period.

The results when plotted on the Van Slyke acid-base diagram, so modified as to include iso-CO_2 tension lines, indicated that almost all of the points were well within the normal acid-base area. No instance of uncompensated acidosis was encountered. In three cases the points fell just outside the normal acid-base area in the compensated acidosis region. One of these patients was afebrile at the time and the other two were suffering from renal disorders. In no instance was there an acidosis of sufficient severity to indicate the advisability of bicarbonate therapy. It has been concluded from the observations thus far that the acid-base condition of patients suffering from pneumonia is usually within normal pH, CO_2 content and CO_2 tension limits.

In eight instances in which we have made repeated observations of the acid-base condition of the same patients we have found evidence that during the febrile period, the CO_2 tension has a tendency to be lower and the pH higher than after the temperature has returned to normal. These results indicate that during the febrile period there is over-stimulation of the respiratory mechanism which leads to a lower CO_2 tension and a slightly higher pH but that this disturbance does not usually remove the patient from a normal acid-base condition. No direct relation has been found between the degree of oxygen unsaturation and the low CO_2 tension of the febrile period.

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A study of the behavior of coal tar on the tissues.

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In another study Burrows has shown that growth in a tissue depends on a crowding of the cells together and a cutting down of their relative blood supply. It is the direct result of the accu-