2851

Some changes in the acid base equilibrium of the body caused by hemorrhage.

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Hemorrhages of one-third to one-half of the total blood volume in dogs produced the following changes. The sudden fall in alkaline reserve (the total CO_2 content of arterial blood was determined in the present investigation) which has been noted by various investigators, was associated with a decrease in pH of the blood, this decrease amounting to as much as .10 pH. On the day following the hemorrhage the total CO_2 was normal, or above. At this time the blood was slightly more alkaline than normal, the increase varying from .03 to .09 pH.

The CO_2 tension of the arterial blood (calculated from the pH and total CO_2 of blood) fell immediately after hemorrhage. Several hours later it was low, normal or high. The next day it was always low. The hematocrit fell rapidly, slowly, or not at all, immediately after hemorrhage. A minimum value was obtained on the day following the hemorrhage. It appears that the increased alkalinity of the blood is associated with the restoration of blood volume.