genase to the total amount of -SH groups is greater in the cells of HENLE's loops than in the convoluted tubules. Consequently, the -SH groups of succinic dehydrogenase in the cells of HENLE's loops are more apt to be blocked by mercurial compounds resulting in the pronounced inhibition of this enzyme in the corresponding segments of the nephrons where the concentrative reabsorption of water is believed to begin.

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Zusammenfassung

Es wurde das histochemische Vorkommen und die Verbreitung der Sulfhydrylgruppen sowie die Aktivität der Bernsteinsäuredehydrogenase in den Nieren von Ratten nach Administration von Novurit bestimmt. Die Sulfhydrylgruppen zeigten keine Veränderungen, die Aktivität der Bernsteinsäuredehydrogenase wurde jedoch herabgesetzt, besonders in den Zellen der Henleschen Schleifen.

Prolongation of Clotting Time in the Dormant Bat *(Myotis lucifugus)*

The bat is unique among mammals in that it is essentially poikilothermic when at rest[1]. The rates of the heart beat[2], blood flow[3] and oxygen consumption[4] in the resting bat also vary with the environmental temperature. At low external temperature the red blood cells pass through the vessels either in clumps or rouleaux, but thrombi and stoppage of flow are not seen[3]. At ordinary room temperature (23°C) blood flow is similar to that seen in other mammals. We sought to determine whether changes in the coagulation time of the blood accompany the markedly different physiological states induced by altering the environmental temperature.

Brown bats (*Myotis lucifugus*) were taken from a summer colony in the attic of a farm house in Indiana during the 2nd week of September. The minimum (night) and maximum (day) environmental temperatures during this period were 10°C and 30°C, respectively. Blood clotting times were determined by the capillary tube technic on samples obtained from puncture of a large vein in the web between the tail and hind legs and from the cut carotid artery. Some bats were studied at the time of collection. Other bats were brought to the laboratory and placed in a refrigerator at 5°C. After 16 and 50 days blood samples were taken from some of these immediately upon removal from the refrigerator and from others several days after removal from the cold and maintenance in a room at 23°C.

The results (see Table) clearly show that clotting time is markedly prolonged as a result of exposure of the bat to low temperature and that it becomes short once again when the animal is returned to a warm environment. (There were no significant differences between the clotting times of samples from the tail vein and those from the carotid artery in the same animal.)

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Table.—Blood Clotting Time

Time of test	No. of bats	Minimum	Maximum	Average
On collection	10	1·5′*	24′*	7·4′*
On 16th day at 5°C	4	72′	275′	149′
On 50thday at 5°C	2	170′	210′	190′
On 3rd day at 23°C after removal from 5°C on 16th day	3	8′	40′	26′
On 2nd day at 23°C after removal from 5°C on 50th day	4	10′	30′	19′

* Combination of clotting times from carotid artery and tail vein samples.

We interpret these findings as indicating an adaptive mechanism which prevents thrombus formation during dormancy. Similar results in the hibernating hedgehog[1] and hamster[2] and in the estivating ground squirrel[3] have been interpreted in the same fashion. The present results and those of the experiments just cited indicate that this mechanism is common to all types of mammals that can enter a state of dormancy.

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Argonne National Laboratory, Lemont, Ill., U.S.A., January 18, 1954.

Résumé

En été, la durée de coagulation du sang augmente notablement si l'on soumet la chauve-souris à une basse température (5°C); elle diminue dès qu'on replace l'animal dans un milieu chaud (23°C). Ceci indique l'existence d'un mécanisme adaptif qui prévient la formation du thrombus.

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Etude de la consommation d'oxygène et de la teneur en acide désoxyribonucléique du foie à divers âges chez le rat

La diminution de la consommation d'oxygène des tissus et des organes avec l'âge a été constatée par divers auteurs parmi lesquels nous citerons HAWKINS[1], PEARCE[2], KAGANOVSKAYA[3], CARROLL[4], ROSENTHAL, BOWIE et GONER[5], SCHULER[6], LAZOVSKAYA[7], CHEYMOL et PELOU[8]. Il convient cependant de rappeler que dans tous ces cas la quantité d'oxygène consommé a été rapportée soit au poids frais, soit au poids sec. Or la constitution des tissus elle-même varie avec l'âge et on

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