

sumption has been *higher*, and the aerobic glycolysis has, when present, been *lower*, in the cerebrospinal fluid than in the standard salt solution.

The reason why the cerebrospinal fluid should thus appear to be a superior medium for the metabolism of mouse liver is not known, although we are not inclined to attribute its superiority to differences in concentrations of inorganic ions.

An example of one way in which the metabolism of tissues may be markedly increased by the presence of organic substances—in this instance a reversibly oxidizable dye, indigo disulfonate—is also shown in the table.

8130 C

Blood Purine Derivatives in Migraine.

JAMES BEAZELL AND LATHAN A. CRANDALL, JR.

From the Department of Physiology and Pharmacology, Northwestern University Medical School, Chicago, Illinois.

In an effort to uncover any possible abnormality in purine metabolism, the blood of 12 patients who suffer from migraine headaches was analyzed for adenine nucleotide nitrogen, purine nitrogen, and uric acid.

Methods for the determination of these substances in blood have, in the past, been unreliable. So-called normal values varied considerably according to the method used. Although the method employed in this study appears to be a distinct improvement on those formerly used, its reliability in the hands of different investigators remains to be established. Since its introduction no published reports of its use have appeared. Because the values obtained by this method cannot be compared with those obtained by other methods it was necessary to study the blood of normal subjects for comparative purposes.

The blood was obtained from 3 of the migraine patients during attacks. From the remaining 9 it was obtained during the interval between attacks. The determinations for adenine nucleotide nitrogen, and purine nitrogen were made according to the methods of Kerr and Blish¹; those for uric acid according to Benedict's method.² All determinations were made in duplicate on fasting blood.

¹ Kerr and Blish, *J. B. C.*, 1932, **98**, 193.

² Benedict, *J. B. C.*, 1931, **92**, 161.

TABLE I.

| Patient | Adenine Nucleotide N | Purine N | Uric Acid |
|--------------------|----------------------|----------|-----------|
| Migraine Patients. | | | |
| 1 | 12.1 | — | 2.9 |
| 2 | — | 4.1 | — |
| 3 | 12.1 | 3.3 | —* |
| 4 | 11.8 | 3.6 | 2.8 |
| 5 | 11.6 | 5.3 | 2.3 |
| 6 | 14.5 | — | 3.6 |
| 7 | 9.8 | 4.3 | — |
| 8 | 9.6 | — | 2.8* |
| 9 | 12.1 | 4.3 | 3.1 |
| 10 | 13.0 | 4.0 | 2.8 |
| 11 | 11.5 | 3.5 | 3.2* |
| 12 | 12.1 | 6.6 | — |
| Normal Patients. | | | |
| Subject | | | |
| 1N | 12.1 | 4.3 | |
| 2N | 11.7 | 5.0 | |
| 3N | 10.4 | 4.8 | |

*Blood drawn during attack of migraine.

The results are listed in Table I. In the migraine series the average values for adenine nucleotide nitrogen and purine nitrogen were 11.8 and 3.9 mg. per 100 cc. respectively. In the normal series the average values were 11.3 mg. per 100 cc. for adenine nucleotide nitrogen and 4.7 mg. per 100 cc. for purine nitrogen.

Although normal values cannot be established on the basis of 3 cases, the absence of variation between patients and controls indicates no departure from the normal in migraine. Since the entire group of 15 patients and controls show only slight variation in nucleotide and purine nitrogen, this study may be considered to indicate the normal fasting values for these constituents of the blood.

These studies are not suggestive of any abnormality of purine metabolism in migraine.

8131 P

Progesterin in Control of Human Uterine Contractions. Significance in Prevention of Habitual and Threatened Spontaneous Abortion.

FREDERICK H. FALLS, JULIUS E. LACKNER, AND LEON KROHN.

From the Department of Obstetrics and Gynecology, University of Illinois, and Michael Reese Hospital, Chicago, Ill.

The hormone progesterin, extracted from the corpus luteum, has been used experimentally in the lower animals to inhibit uterine con-