

The above findings suggest that the increase in blood density which precedes the acute paroxysm of fever with chill, muscle spasm, pallor and peripheral constriction is probably to be considered as a part of the anaphylactoid reaction of the fever-producing agent rather than an essential factor in the mechanism of fever itself. After the first 2 hours of fever, there is a state of blood dilution. With the termination of the fevered state by sweating, blood concentration may again appear.

9745 P

Synthesis of Hippuric Acid in Man Following Intravenous Injection of Sodium Benzoate.

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With the increasing employment of the synthesis of hippuric acid as a means of determining liver function, several disadvantages of this test have been recognized. Vomiting occasionally occurs after the ingestion of sodium benzoate; the collection of urine for 4 hours is at times inconvenient; and in rare instances the condition of the patient may not permit the oral administration of the drug.

To meet these difficulties, the intravenous injection of sodium benzoate was investigated. 1.77 gm. of sodium benzoate (equivalent to 1.5 gm. benzoic acid) dissolved in 20 cc. of distilled water were given intravenously. The subject voided before the test began and a complete urine specimen was collected exactly one hour after the completion of the injection. Approximately 5 minutes were required for the injection. The hippuric acid was determined by the senior author's simple clinical method.¹ The results obtained on normal adult subjects are given in Table I.

From these results one can conclude that after the injection of 1.5 gm. of benzoic acid (as the sodium salt), 0.7 to 0.95 gm. are excreted as hippuric acid during the first hour by a healthy adult subject. If exogenous glycine is supplied, the synthesis of hippuric acid is greatly increased, which indicates that the amount of hippuric acid excreted is a measure of the body's capacity to synthesize glycine.

¹ Quick, A. J., *Am. J. Med. Sci.*, 1933, **185**, 630.

TABLE I.

Subject	Hippuric acid (expressed as benzoic acid) excreted in hour	Remarks
1	.71	Test done a.m.
	.73	Test done p.m.
	1.01	15 gm. gelatin ingested 1 hr. before test
2	.95	
	.91	
3	.76	
	.88	
4	.84	
	.92	
5	.92	
6	.72	
7	.99	
8	.82	
9	.81	
10	.79	
11	.74	
12	.82	
13	.91	
14	.74	

The intravenous injection can therefore serve as an alternative method to the oral administration of sodium benzoate in the determination of liver function by means of the hippuric acid synthesis.

9746 P

Acetylation of Sulfanilamide by Liver Tissue *in vitro*.

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Marshall, Emerson and Cutting¹ and Fuller² have demonstrated that sulfanilamide is partially converted by man and the rabbit into a conjugated form. The latter has been isolated from the urine of these species after oral ingestion and has been shown to be acetyl sulfanilamide. Ellinger and Hensel³ have demonstrated the acetylation of para-amino-benzoic acid by the rabbit, and Muenzen, Cerecedo, and Sherwin⁴ have concluded that acetylations are very likely confined to the liver.

¹ Marshall, E. K., Jr., Emerson, K., Jr., and Cutting, W. C., *J. Am. Med. Assn.*, 1937, **108**, 953.

² Fuller, A. T., *Lancet*, 1937, **1**, 194.

³ Ellinger, A., and Hensel, M., *Z. physiol Chem.*, 1914, **91**, 21.

⁴ Muenzen, J. B., Cerecedo, L. R., and Sherwin, C. P., *J. Biol. Chem.*, 1924, **60**, XVI.