

ture to which we may refer this assemblage of symptoms; yet the Widal test should incline us to regard it as a true, uncomplicated case of typhoid fever. The urine in this case, while greatly reduced in quantity and containing an excess of urates and some oxalates, was free from indicanuria—a more positive evidence of auto-infection.

I have selected the two cases of fever in young children, because they both stand on debatable ground, yet both possessing strong evidence of correct diagnosis. The older child, with slow onset and general malaise, irregular type of fever followed by a most unusual form, gave strength to the assemblage of symptoms suggestive of true typhoid; yet, on closer scrutiny, they would negative this opinion, especially with a more conclusive test of Widal's reaction, ruling it out of this category.

The second case, the young child of one year, with an assemblage of symptoms wholly unlike the unusual symptoms of typhoid, was undoubtedly a genuine one, not only by reason of exposure, but by the positive reaction test and the absence of indicanuria.

The whole subject of auto-intoxication, as found in young subjects, is exceedingly fascinating as possessing such a kaleidoscope of passing, changing symptoms as to bewilder the investigator. It has passed through many changes of meaning since its recognition. Auto-intoxication through the intestinal canal consists of retention of the usual abnormal material in the bowels. The result of this retention is decomposition, putrefaction and fermentation of the waste part of the food, giving us formic, butyric and lactic acid, and a generous amount of offensive gases pressing on the intestinal filaments of the pneumogastric and other nerves, giving rise to many local and general symptoms. The decomposition of albuminous products gives rise to the formation of phenol, indol, skatol and tyrosin. With knowledge of these many products of imperfect assimilation in the intestinal tube, a varied train of symptoms must necessarily arise, suggesting directly a disorder of the bowels themselves and reflexly of the respiratory system as seen in reflex bronchitis, nervous cough, local and general convulsions. The circulation is positively disturbed, oftentimes profoundly influenced, producing tachycardia, cold hands and feet, livid lips, blue eyelids, erythema fugax, and perspiring head and limbs. The kidney may assume an effort to dislodge the intruder, as found in lithemic urine, excessive uric acid and indicanuria. This long line of symptoms may be greatly enlarged, according to the personal equation of the investigator and the child's environments. We possess one positive proof that they are actually associated with the poison retained in the intestinal tube, because the symptoms disappear when the fermenting masses are removed.

That form of auto-intoxication found in adults, characterized by depressed spirits, disgust for all exertion, retiring disposition bordering on melancholia—the pessimistic individual—has its parallel in the young child in feverishness, fretfulness, destructiveness, nameless crying, aversion, and unusual perversion of the childish state.

Indicanuria I have found nearly always suggestive of auto-intoxication in young children and precedes the more serious symptoms by many days. This condition of the urine has not received the careful study it merits. Constipation is not always associated with auto-intoxication, as we might first imagine.

Oftentimes the more fluid the intestinal movements are the more rapid may be the absorption of the poisonous material. In these cases the urine is highly noxious, and a good example of this diarrheal form of auto-intoxication is seen in cholera. However, in cholera the absorption of toxins seems to be continuous, while we may have frequent colliquative evacuations. The convulsions in young children suffering from gastro-intestinal disturbances may be explained better in terms of auto-intoxication than by the usual reflex theory or the undeveloped cortex.

## SUBNORMAL TEMPERATURE IN TYPHOID FEVER.

Presented to the Section on Diseases of Children, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY H. H. FREUND, M.D.

PHILADELPHIA.

The vagaries of the temperature history of typhoid fever are familiar to us all. While the mass of recorded temperature shows a certain regularity extending over a period of nearly three weeks, in historic or average cases; yet our experience brings to our knowledge a series of cases at variance with the classic course. These differences exist in cases gathered when happening in either childhood or adult life. While in adult life we can with certainty prognose the febrile history in an average case, in childhood this is more difficult, as the vagaries of temperature are so elusive that many days may elapse before the true condition can be determined. The degree of temperature is of different significance in childhood and adult life—what would be considered a dangerously high temperature in the adult would not carry the same import in the child. Why this should be so, would seem to me to be due to the greater resistance of the adult against febrile disturbances due to septic influences.

Why do our cases often present subnormal temperatures? is the subject upon which I would want the gentlemen to throw some light. I have seen several instances of this phenomenon, but none in which this symptom was so marked and in which it persisted so long as in the case of a young boy whose history I will relate.

The patient was 9 years old, healthy, well-proportioned, and had complained for several weeks before medical advice was sought. When first seen, he had probably advanced well on to the second week of typhoid, with roseola well marked. At the beginning of the third week, the temperature dropped as low as 96.4 degrees, axillary and *per orem*. For eight days the temperature persistently remained about this degree. During this time the patient was otherwise doing well; skin cool and dry; intellect good; urination good; bowels opened each day, presenting nothing unusual; no evidences of internal hemorrhage. Patient felt well, did not complain of any unusual aberrations; finally, on the eighth day, we were enabled to record a normal temperature. This long-continuance was a source of great anxiety to all concerned, yet despite all our efforts to restore the normal condition, no means seem to have been of the least avail.

**An Encouragement.**—In the United States 70,000,000 gallons less of alcohol were consumed in 1896 than in 1888.