presents many unusual features. The patient showed symptoms suggestive of a melancholic, a schizophrenic, and an organic state, but his condition was typical of none of these. After the prodromal period the onset was hyperacute, taking place in the course of a day; apparent mental clarity was maintained throughout, and focal frontal signs of an unusual nature were seen.

It seems very probable that with the reduced dietary of wartime the occurrence of such cases will be noted more often, and there may be many lying unrecognized in the wards of general hospitals. The appearance of stuporous and delirious states for which no gross cause can be found, especially after a period of inadequate feeding, asthenia, and gastro-intestinal disturbance, should lead to a suspicion of vitamin deficiency; and the presence of focal frontal signs should not be taken as a contraindication to such a diagnosis. If there is vitamin B deficiency, dramatic improvement will be shown within a fortnight, and this establishes the diagnosis. But American authorities are of the opinion that if the condition is allowed to persist for any considerable time a permanent dementia may ensue.

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Medical Memoranda

Staphylococcus aureus haemolyticus Septicaemia Successfully Treated with Thiazamide

The rarity of recovery from sudden and acute *Staph. aureus* septicaemia (verified by blood culture) seems to warrant the report of a case treated by the oral administration of thiazamide (M & B 760). Such cases are usually fatal, except perhaps some of those of osteomyelitis in children which are in the nature of a temporary bacteraemia, although a few of these develop into a virulent and, usually, fatal septicaemia.

CLINICAL HISTORY OF CASE

The patient, a man aged 65, had on January 4, 1941, a very mild sore throat and moderate temperature which subsided in a day or so, although he looked ill out of all proportion to the supposed condition. He then ran a night tem-

M. tetragenus. The blood was agglutinated against *B. typhosus* H and O, paratyphoid A, B, and C, the Salmonella group, and *Brucella abortus*, with completely negative results. A study of the leucocyte and differential counts is given in the table. It will be noted that the initial count shows a poor total response to leucocytosis but a high proportion of immature neutrophil cells. These are increased tenfold and evidently indicate a severe drain on the leucocyte reserve. Their reversion to nearly normal is seen on March 11. On January 22, when under the full influence of thiazamide, the satisfactory leucocytic response is clearly evident.

On January 15 the urine was acid, pH 5.5, with a moderate cloud of albumin, specific gravity 1024, and a deposit showing occasional leucocytes, epithelial cells, and mucus. The chlorides were reduced to 0.3% (normal 0.8 to 0.85%). This gave rise to a suspicion of pneumonia, possibly deep-seated, but clinical examination entirely failed to confirm this. The albumin was presumably due to renal congestion.

PROGRESS UNDER TREATMENT

Treatment was started on January 17. Eight 0.5-gramme tablets of thiazamide were given four-hourly for six doses, then six tablets four-hourly till the morning of the 24th; each dose was accompanied by 50 mg. of nicotinic acid to prevent unpleasant effects. This was in the main highly successful. There was no vomiting and the patient complained only of the amount of fluid he had to drink—namely, three pints in twenty-four hours. Altogether 82 grammes of thiazamide was given, all by the oral route. The temperature, which had been fluctuating between 100° and 102° F., fell to normal on January 24. There were no rigors during this period, but the pulse rate was 100 to 120. A blood culture taken on January 22 remained sterile after six days' observation and subculture.

Clinical recovery was complete, and the only sequelae were a patch of numbness in the front of the right thigh and right foot-drop (peripheral neuritis), which was gradually subsiding when the patient was seen on May 7, and has since completely subsided. A temporary neutropenia also was disappearing. This, too, was most likely a drug effect.

COMMENTS

In this case there seems a fair probability that the throat was the primary source of infection, despite the fact that cultures on January 14 showed no staphylococci, probably owing to too recent local treatment. But the organisms had already entered the blood stream, since they were recovered therefrom. In the blood-culture technique used the length of time taken for development is a useful indication of the degree of infection. The worst cases develop in about twelve hours and the mildest in five to six days. In our case a growth was obvious in glucose broth after forty-eight hours, indicating a fairly heavy infection (10 c.cm. of blood to 50 c.cm. of broth).

It is hoped that this short record will encourage others to use thiazamide in such cases. It is significant that the treatment

Table showing the Leucocyte and Differential Counts

Type of Cell	14/1/41		22/1/41		31/1/41		11/3/41		7/5/41		Normals	
	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total
Mature neutrophils..	48	4,512	58	9,744	59	4,602	41	1,968	57	3,192	61.5	4,612.5
Immature " ..	38	3,572	27	4,536	20	1,560	10	480	10	560	4.0	300.0
Basophils ..	0		0		1	78	0		0	0	0.5	37.5
Eosinophils ..	1	94	0		2	156	3	144	2	112	2.0	150.0
Lymphocytes ..	12	1,128	14	2,352	16	1,248	44	2,112	27	1,512	28.0	2,100.0
Monocytes ..	1	94	1	168	2	156	2	96	4	224	4.0	300.0
	100	9,400	100	16,800	100	7,800	100	4,800	100	5,600	100	7,500*

* Varying 10% either way.

perature of 99° to 100° F. and had rigors at night on several occasions. During this period (January 14) a blood culture taken with glucose broth showed, after forty-eight hours' incubation, a profuse growth of *Staph. aureus haemolyticus*. This was verified by subculture on to blood agar. At this time a throat swab showed a growth only of pneumococci, haemolytic and non-haemolytic types of the *M. catarrhalis* group, and

was wholly oral. *Staph. aureus haemolyticus* septicaemia need not now so often connote a death sentence, and that sinking feeling which it engenders in both clinician and bacteriologist is now relieved by a new hope. Many lives will surely be saved which formerly would have been lost.

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