Toxic Effects

Visual.—There were no serious toxic effects in our cases. Photophobia, or the "glare" phenomenon, particularly when the patient was out-of-doors, has been the most common manifestation, although this has occurred only in adults. There was no evidence of intrinsic eye changes. In no case was it necessary to discontinue treatment on this account, and the condition appeared to occur irrespective of dosage.

Blood.—White cell counts and haemoglobin estimations were done at monthly intervals. We had decided that if the count fell below a total of 4,000 white cells we would stop the drug. This occurred in one case, and the count improved considerably after the tridione had been discontinued. Lennox lays down that a white count of below 4,000, with polymorphonuclears less than 40% or numbering less than 1,600, are indications for at least temporary discontinuance of medication. The haemoglobin remained normal except in one case with a reduction to 60%; there was no evidence that the diminution was due to the tridione.

Skin.—Two children developed a morbilliform eruption, one having in addition a severe stomatitis, presumably due to the drug; the blood picture was normal. The condition cleared up shortly after tridione was discontinued.

Gums.—There was no effect on the gums, such as the hyperplasia that follows epanutin administration.

Ataxia.—There was no case in which tridione could be incriminated.

Indications for Stopping Treatment

These are: (1) an increase in the number of attacks, (2) failure to control petit mal, and (3) manifestation of toxic symptoms. The dose of tridione was increased to six capsules per day, when necessary, before we considered it had failed to control the petit mal. One important factor in the use of tridione is that, unlike the anti-convulsant drugs, it can be withdrawn abruptly without ill effects.

Summary of Cases

Children.—Fourteen cases.

Boys.—Ten cases, aged between 10 years and 14 years 11 months. Attacks have entirely ceased in four cases. In case 1 they ceased in seven months, in case 2 in six weeks, in case 3 in four weeks, and in case 4 in four months. Case 1 was having 100 attacks a month; case 2, 65 attacks a month; case 3, 10 to 20 attacks a month; and case 4, 35 attacks a month. The remaining 10 cases showed from 10% to 90% reduction in the number of attacks.

Girls.—Four cases, aged between 11 years 11 months and 13 years 11 months. Case 1 was exhibiting the akinetic type of attack. She has ceased to fall in the attacks, and they were reduced by about 15%. In cases 2 and 3 the attacks were reduced by 50%. Case 4 had shown a marked reduction in her attacks, but after four months' treatment tridione was withheld when the total white cell count fell to 4,000 per c.mm.

Adults.—Thirty-six cases.

Females.—Twenty-six cases, aged between 16 years 10 months and 68 years. Attacks ceased in six months in one case that was having 120 to 300 attacks a year. Thirteen cases showed a diminution in the number of attacks. Seven cases showed little or no improvement. Three of these cases were among the earliest treated with tridione, and began severe attacks of grand mal as soon as therapy was started. Two of these cases are now receiving tridione again, and doing well. Two cases were apparently worse with tridione.

Males.—Ten cases. Of these, eight cases showed improvement and two no improvement.

From the foregoing it will be seen that in boys 28.5% showed cessation of attacks, and in girls 75% showed improvement. In female adults 3.7% showed cessation, 50% improved, and 7.7% became worse. In male adults 80% showed improvement, and 20% showed no improvement.

We are now giving tridione to more patients. The drug appears to be of use in all cases of petit mal, although it is of little or no value in the treatment of grand mal.

Summary

Conclusions are given of the treatment of 50 cases of petit mal with tridione over one year. Tridione is of value only in the treatment of petit mal. Dosage and toxic effects are discussed.

An analysis is given of the effects of treatment upon adults and children. The best results were with children.

My thanks are due to the committee of the National Society for Epileptics for their permission to publish these results, and to the matron and nursing staff for their co-operation.

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CASE OF *SALMONELLA* ENTERITIDIS SEPTICAEMIA WITH LUNG ABSCCESS

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Although *Salmonella enteritidis* (Gaertner's bacillus) infection is usually characterized by an acute gastro-intestinal illness with a pyrexia, many authors report a positive blood culture. Huang (1937) reviewed 50 cases of *Salmonella* septicaemia, most of which also had a coincidental debilitating disease—e.g., relapsing fever. There is a striking similarity between the features of *Salm. enteritidis* septicaemia and typhoid fever.

The usual onset of *Salm. enteritidis* septicaemia is sudden, with fever and generalized aches. A continuous fever with a relative bradycardia often occurs in the second week. A moderate anaemia with a leucopenia is frequently present. An enlarged spleen is almost constant. Rose spots about 3 mm. in diameter, not fading on pressure, are a feature at this stage. The blood cultures are positive in the first two weeks, and the organisms can be recovered from the stools and the urine later. Serum agglutinins are not usually detected until the fourth week.

Occasional variants from this clinical picture have been recorded—e.g., hepatic enlargement. Necropsy findings include hyperplasia of Peyer's patches, haemorrhages in the gastro-intestinal mucosa, and inflammatory lesions of the brain, gall-bladder, bile ducts, and lungs.

Predisposing Factors and Prognosis.—Most authorities stress the importance of malnutrition and debilitating disease, which is emphasized in the case report below. The mortality is high, and due to the frequent occurrence of complications.

Complications

The complications recorded include meningitis, pyelitis, osteomyelitis, cholecystitis, cholangitis, and pulmonary

involvement. Two cases of fatal purulent meningitis are recorded by Huang. Stevenson and Wills (1933) have reported a "primary" *Salm. enteritidis* meningitis in a child of 9 weeks. Pyelitis and pyelonephritis are common in the recorded cases. Harvey (1937) and Guerra have reported the occurrence of *Salm. enteritidis* osteomyelitis. Barwell (personal communication, 1947) describes a case of amoebic liver abscess in which *Salm. enteritidis* (Chaco variety) was found in the pus from the abscess.

Pulmonary Involvement.—The recovery of *Salm. enteritidis* from the sputum has often been reported, but only two cases of pulmonary involvement could be found. McNee (1921) describes a case of "influenza bronchopneumonia" in which necropsy findings were haemorrhagic peribronchial areas with pus in the bronchi, from which *Salm. enteritidis* was cultured. Smith and Scott (1930) report a case of *Salm. enteritidis* septicaemia in which consolidation of the right upper lobe developed. The rarity of the pulmonary involvement is contrasted strikingly with the comparative frequency in typhoid and paratyphoid fevers and in infection by *Salm. cholerae-suis*.

Case Report

A merchant seaman aged 48, a native of Barbados, was admitted to the Seamen's Hospital on Feb. 6, 1946. He complained of several weeks' headache and sweating. He also had some shortness of breath and had recently developed anorexia with occasional vomiting. He had a history of malaria and had been treated for nutritional oedema in 1945 at Durban.

On admission his temperature was 101.4° F. (38.55° C.), but there were no abnormal physical signs except a furred tongue and a dermatitis on his back and arms. The initial white-cell count was 12,900 (82% polymorphs) and the blood urea 49 mg. per 100 ml. The urine contained albumin, pus, and a few red cells. The chest showed no radiological abnormality at this stage.

Pyrexia continued, with peaks of 104 to 105° F. (40 to 40.6° C.), and six days after admission a course of quinine and mepacrine was tried empirically. The pyrexia did not respond to this therapy. Twelve days after admission he developed a coliform cystitis which responded to potassium citrate, and he became afebrile for a week, with much clinical improvement.

On the 24th day after admission he again became febrile and developed a cough with "rusty" sputum. Examination revealed fine crepitations over the right upper lobe and signs of a small effusion at the left base. A skiagram now showed the presence of a thick-walled abscess cavity in the right upper lobe and a small left basal pleural effusion. Further radiological examinations during three days showed an increase in size of the abscess, which lay in the axillary-pectoral segment of the right upper lobe. A second smaller cavity developed in the left upper lobe, but this diminished in size subsequently.

The patient's condition slowly deteriorated, and he was soon producing 4–6 oz. (110–170 ml.) of foul sputum daily. There was no response to penicillin or sulphonamide therapy, and on March 22 he was transferred to the London Chest Hospital for surgical drainage. At this stage his main complaint was a sharp pain in the right side of the chest, and his temperature was continually about 101.6° F. (38.7° C.). Clubbing of the fingers had not developed, but the dullness at the right upper lobe and showers of fine crepitations were still present. His white cells numbered 34,000 (polymorphs 70%), and his haemoglobin was 66%.

A course of penicillin (500,000 units daily) was again started, and on March 24 the abscess was drained through the axilla. Specimens of pus from the abscess, the sputum, and the blood all produced *Salm. enteritidis* on culture. However, the patient became stuporous two days after the drainage and developed marked meningism. The cerebrospinal fluid was sterile on culture, and there were no abnormalities in pressure or cell count. The patient's condition gradually deteriorated, and generalized

oedema developed. He died on April 4, eight weeks after his original admission.

Necropsy revealed a marked increase in intracranial tension, with numerous abscesses and septic infarcts but no meningitis. The whole of the right upper lobe of the lung consisted of a sloughing pneumonitis with central cavitation, and there was a thin-walled abscess in the left upper lobe. Ulceration of the ascending and lower descending colon was present, non-specific in character. The liver and spleen were normal.

The bacteriological investigation (Dr. Joan Taylor, Salmonella Reference Laboratory) showed that this particular organism was the Chaco variety of *Salm. enteritidis*, which had been isolated in India and South America but not previously in this country.

We are indebted to Dr. E. H. Hudson, Dr. Keith Simpson, Dr. C. E. Sundell, and Mr. Vernon Thomson for permission to publish this case and for their helpful criticism.

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Medical Memoranda

Direct Inspection of Coarctation of Aorta with a Thoracoscope

A study of the literature reveals that a coarctation of the aorta has never been reported as having been seen through a thoracoscope, nor has the use of this instrument as a means of identifying abnormalities of the great vessels been described, though Fatti (1949—personal communication) used the procedure before performing Blalock's operation.

In the case here described there was a chance combination of two diseases—coarctation of the aorta and pulmonary tuberculosis. A therapeutic pneumothorax was induced and the presence of adhesions indicated thoracoscopy. An opportunity for direct inspection of the coarctation was thus presented. We were able to confirm the presumptive diagnosis and to determine the exact position and extent of the lesion and its relation to the subclavian artery.

CASE REPORT

The patient, a woman aged 22, had a haemoptysis in July, 1948. She was x-rayed, and pulmonary tuberculosis was diagnosed.

On admission to the tuberculosis unit of St. Stephen's Hospital she felt well, had only a slight cough and a trace of sputum, had not lost weight, but had had some headaches which were not severe. The feet were always cold, even though she used a hot-water bottle to try to keep them warm.

Her general condition was good; she was afebrile and her weight was 7 st. 12 lb. (49.89 kg.). There were no physical signs of pulmonary disease. Examination of the cardiovascular system revealed a normal-sized heart with a blowing systolic murmur heard all over the praecordium, and equally well heard in the interscapular region, especially on the left side. The blood pressure was 200/95 in the right arm, 210/90 in the left arm, 190/100 in the right leg, and 190/100 in the left leg. There was visible and increased carotid pulsation, but no evidence of abnormal collateral circulation over the chest wall. The femoral pulses, though present, were difficult to feel, and were later than the radial pulses.