the antigen-complement system. (2) Standardization of antigens. (3) Use of several antigens. (4) A qualitatively different ++++ reaction. (5) Titrated positive controls.

ERRATUM

HETEROZYGOUS Rh TRANSMISSION IN A LARGE FAMILY WITH A CASE OF *ERYTHROBLASTOSIS FŒTALIS*

By K. S. RANGANATHAN, M.R.C.S., L.R.C.P.

Officer on Special Duty (Blood Transfusion), Office of the Director-General, Indian Medical Service, New Delhi

published in the *I.M.G.*, **82**, July 1947, p. 405, column 2, the following lines :

'congenital hæmolytic disease are (Chown, 1944), history of death of the previous child from neonatal jaundice (Diamond and Abelsen, 1945), Rh heterospecificity of the mother and baby (Polayes and Chibaum, 1945), presence of anti-Rh agglutinins in the mother's blood (Ranganathan *et al.*, 1946), their specificity to the baby's red cells (Weiner, 1945) and onset of jaundice on the day of birth and its progressive increase associated with anæmia. The points against are (Chown, 1944), absence of typical clinical features, enlargement of liver and spleen (Diamond and Abelsen, 1945) and absence of'

should be corrected to

'congenital hæmolytic disease are : (1) history of death of the previous child from neonatal jaundice, (2) Rh heterospecificity of the mother and baby, (3) presence of anti-Rh agglutinins in the mother's blood, (4) their specificity to the baby's red cells, and (5) onset of jaundice on the day of birth and its progressive increase associated with anæmia. The points against are : (1) absence of typical clinical features, enlargement of liver and spleen, and (2) absence of'.

A Mirror of Hospital Practice

A CASE OF AMŒBOMA WITH ABSCESS FORMATION FOLLOWED BY INFECTION OF THE DRAINAGE WOUND

By A. INNES COX, O.B.E.

LIEUTENANT-COLONEL, I.M.S.

and

ACHUTON

Government Hospital, Ootacamund

ON the 26th of December 1946, a patient, who had been long resident in a hot and wet part of India, was sent into this hospital by a local practitioner with a tentative diagnosis of chronic appendicular abscess.

At the time of admission, the patient complained of slight pain and discomfort in the right flank and under the ribs in the right side where he was conscious of a tumour and a simple painless diarrhœa unrelated to the intake of food. These definite signs and symptoms of illness had been present for only one week. The previous history was only of bacillary dysentery and colitis during 1945; he had however been feeling progressively 'off colour' for the past eighteen months. He had undergone treatment by many physicians and was sent to the Nilgiris to try the effect of rest and climate.

The patient, a wiry, highly strung nervous type, did not look ill. The abdomen, soft and easily palpable, showed comparative emptiness in the right iliac fossa, and a massive tumour in the right hypochondrium, that could be palpated through the flank behind like a kidney tumour, but there were no renal symptoms, nor had there been in the history any symptoms of renal disease.

The temperature was 98° and the pulse 100.

Renal tumour, tuberculous disease of the cæcum, chronic intussusception and appendicular abscess came easily to mind.

Renal disease was soon ruled out by a perfect pyelogram and by laboratory tests, so a barium series was taken which showed normality throughout except in the area of the tumour, which appeared to be the cæcum through which the opaque meal shot as it does in the case of tuberculosis of that organ.

Shadows of old calcified tuberculous glands in the abdomen were additional evidence for a diagnosis of tuberculous disease of the cæcum, and the blood count showing leucopænia added weight to the tuberculous theory as against that of appendicular abscess.

However, the possibility of chronic intussusception was kept in mind in spite of the fact that a highly intelligent and sensitive patient declared against ever having suffered a colic.

The case was clearly surgical, the probable diagnosis tuberculous disease of the cæcum and the plan of procedure, a first stage ileotransverse colostomy and a second stage resection.

At operation there was no evidence of tuberculous disease at all, nor indeed of intussusception, so the diseased area was packed off and the para-colic gutter explored by an attempt to mobilize the cæcum.

This presented considerable difficulty owing to the density of adhesions, but when achieved, more than a pint of pus was released from several pockets which, when broken down and explored, left a cavity; the posterior wall of which was the kidney, the anterior wall the massive thickened cæcum, and the superior wall the undersurface of the liver.

It was noticed that the pus was innocent of the typical *B. coli* smell but the condition appeared to be a chronic appendicular abscess, with the difference that there was no vestige of cæcal anatomy and that the walls of the abscess cavities instead of being smoothed out were granular and intensely vascular, so much so that much search for the appendix would have entailed considerable loss of blood. Hence sufficient tissue for biopsy was removed and the abscess cavity drained by a stab wound high in the flank posteriorly.

Resection of the bowel in such a supposedly septic state was not considered; hence after

careful toilet, the abdomen was closed and Dr. Achuton and I agreed to give a course of 6 grains of emetine during convalescence in case we had missed amœbiasis.

During a week's investigation before operation the temperature had been mostly normal, occasionally 99° and the pulse consistently 88 to 102 per minute.

After operation the pulse showed a maximum of 88 per minute and the temperature varied between 100° on the second day and 98.4° on the ninth when the stitches were removed from a cleanly healed wound. The discharge from the drainage stab however remained profuse.

On the 10th day the temperature rose with a rigor, so the stab drainage was explored with sinus forceps, and thereafter the temperature remained normal for nearly two weeks. Then further rigors, temperature and acceleration of the pulse heralded showers of pulmonary emboli. The patient was now seriously ill.

However in the course of 8 days he recovered from this misfortune except for a little blood-tinged sputum and all looked well but for the tumour and a discharge so profuse (being several ounces a day) as to give one cause to realize that the loss was more than could be compensated for by a capricious appetite.

The discharge was sanguineous and gangrenous and on microscopic examination showed nothing pathological as perhaps one should expect in dead tissue, neither had it the appearance of liver pus, and furthermore I had palpated the undersurface of the liver and found no breach on its surface.

Now the drainage wound began to look angry, and from it there extended a gangrenous patch which in a comparatively short time covered an area downwards and forwards equal to that of a large man's hand. The pulse quickened to 120 per minute and the temperature became irregular between 99° and 100°, while the blood-stained drainage discharge increased to such a degree that the condition of the patient deteriorated rapidly and an unhappy ending seemed inevitable.

Throughout the illness frequent stool examinations had been made, all with a negative result, and this, with the 'idea fixe' of appendicular abscess, albeit a peculiar one, somehow stunted originality of thought until a mental picture of something read in the past and half forgotten was recalled. Search found it in the *British Encyclopædia of Medicine*, 1941-42, under Amœbiasis Cutis wherein T. E. Syatt and R. R. Buckoly reported two cases, and were able to collect only 28 published cases. Of these it is stated, 15 recovered and 11 died. Reference to this small paragraph changed the diagnosis immediately and emetine was given with the determination to be bold about it, for without it there seemed no hope at all.

The result after 4 grains was dramatic. The dry black gangrenous skin began to separate like shoe leather, leaving a granulating wound and a minimum discharge, debridement being unnecessary.

The tumour diminished in size, but remained palpable. The patient has now, in spite of his desperate state, received 9 grains of emetine on consecutive days, a rest for a week, and a further 4 grains. He is up and about, and although he still has his tumour, he is well.

What is to be the ultimate result of this? Will eventual resection or short circuit be necessary? He has never had signs of obstruction nor even ileus after operation. The pathological report of tissue removed for biopsy is, 'No appendicular tissue, specimen shows subacute inflammatory changes with congested blood vessels. No evidence of tuberculous infection'.

Yet clearly this was a case of amœbic granuloma, which is not uncommon. Many such cases have been written up by military surgeons practising in the East during the war. Moreover shortly after arriving at the correct diagnosis the *Indian Medical Gazette* of November 1946 published an article by Dr. D. Govinda Reddy, M.D., and Dr. C. Mohan Rangam on amœbic granuloma of the larger intestine describing six cases, but in none of these was the skin involved, neither can I recall reading of an amœbic granuloma with abscess formation followed by gross skin involvement as the result of drainage.

This case is not only of interest to us, but also gives one of us, Lieut.-Colonel A. I. Cox, an opportunity to correct an error in ætiology of this disease which was described by him in the *I.M.G.*, Vol. LXXVI, no. 11 of November 1941. Therein is described a 'tuberculous' cæcum which was not 'tuberculous' involving the terminal ileum, cæcum and appendix, the whole woody hard and intensely œdematous.

It was suggested then that the disease may be due to lymphogranuloma inguinale and the treatment excision with ileotransverse colostomy.

Lieut.-Colonel A. I. Cox went on to say that the specimens sent to the pathologist for cancer or tubercle proved the cause to be neither, and that unlike cases of tuberculosis or cancer, the resistance of such patients was so good that death was rare, so that verification by autopsy was seldom possible, etc.

What was described at that time must have been amœbic granuloma.

Skin infection is however rare, for why in all the resections that must have been done for this disease, has the skin not suffered? And why in so many liver aspirations does the skin escape? The answer, I presume, is that in the former, the procedure is complete and clean, the skin not being infected, while in the latter, the diagnosis is so obvious that emetine is always given. Yet there are many of us in practice to-day who remember that some 25 to 30 years ago amœbic abscesses were opened and drained, and not infrequently irritated by irrigation. It is regretted that skin section was not taken at

the advancing margin of the disease, so as to put the diagnosis on a sound basis, but to have suggested it would have been tantamount to asking the patient to quit hospital and foreswear all further treatment.

In this case the amœboma had gone on to an abscess that precluded excision, and drainage with inadequate dosage of emetine resulted in gangrene of the skin, for peri-colic tissue had already been invaded by the amœbæ. Were I to recognize this condition again, I should do the minimum of opening and cleaning out the abscess so gently as to avoid any bleeding from the soft granulation tissue, then close the abdomen without drainage and put the patient on larger doses of emetine.

I should appreciate the views of other readers who may encounter this disease. Especially should I like to know the ultimate fate of such a case, which was little more than one of surgical diagnosis and medical treatment.

A CASE OF DIPHTHERITIC ENCEPHALITIS

By J. W. D. GOODALL, M.D., F.R.C.P. (Edin.)
MAJOR, I.M.S.

THERE are few references to encephalitis due to diphtheria in English medical literature and the condition is considered to be a rare one by Rolleston and Ronaldson (1940). A full description of a case in a child of eighteen months was given by Hall (1932) but apart from this the writer has not found it described except in foreign journals. The following case which occurred in his wards in the Medical College, Calcutta, may therefore be of interest :—

A Bengali Muslim female baby aged one year was admitted on 10th April, 1947. The mother stated that the child had suffered from fever for several days and that she brought her to hospital because she was now having convulsions.

On examination she was found to have a temperature around 99 to 100°F. There was a whitish grey patch on the right tonsil with slight cervical adenitis.

She was inclined to cough and had a running nose. The liver and spleen were not palpable, and the lungs showed no abnormality. The heart was normal except for tachycardia.

She was given 20,000 units of penicillin intrathecally and 20,000 units every 3 hours for 8 days. The throat and nose were also sprayed with penicillin, 1 : 500 units every 3 hours. Swabs were taken from the throat and nose and the nasal swabs showed the presence of *B. diphtheriæ* on three occasions between admission and 18th April. The throat swabs were all negative. Lumbar puncture revealed a clear fluid under slight pressure. A few cells all lymphocytes were seen. The protein value was 42 mg. per cent, the sugar 30 mg. per cent, and the chloride 675 mg. per cent. Subsequent estimations made in the course of the disease showed no appreciable change except that the protein rose to 84 mg. per cent.

Progress.—Within a week of admission after a temporary improvement in the general condition the child began to vomit her food. Her weight began to fall. A fortnight after admission she became drowsy and could be handled without crying or waking. Irregular movements of the left arm and leg were noted but there was no paralysis. The eyes became vacant and staring at times but she could be roused for short periods. She continued to vomit her food.

Some rigidity of the back muscles was noted at this time but there was no definite neck rigidity. The reflexes were brisk. There was no clonus. Babinski's sign was not elicited. The abdominal reflex was absent. The temperature rose to 103°F. and the pulse was 120 to 160 per minute.

It was not till this stage that a diagnosis of encephalitis was made, and she was now given 40,000 units of anti-diphtheritic serum. She was also given a course of 7 days sulphadiazine in place of penicillin which was stopped for a week. No improvement took place. The left upper limb was noted as being weaker than the left on 1st May, and there was a slight degree of wasting of the left deltoid. No cranial nerve involvement was noted. The skull was *x*-rayed on 26th April, and showed no abnormality. The white cell count, which was done on 11th April, showed 31,000 leucocytes. The differential count was polymorphs 88 per cent, lymphocytes 10 per cent and mononuclears 2 per cent. Further searches in the cerebrospinal fluid revealed no tubercle bacilli.

The subsequent course of the illness was a steady decline accelerated by vomiting and malnutrition. Nasal feeding was resorted to. The patient died on 13th May.

Comment.—The main features of this case were the drowsiness, convulsions and vomiting associated with a high temperature towards the end, and with nasal swabs showing *B. diphtheriæ*. The patch on the throat cleared up in a few days after admission. No post mortem was held due to parental opposition.

REFERENCES

HALL, W. E. B. (1932). *Canadian Med. Assoc. J.*, **26**, 566.

ROLLESTON, J. D., and RONALDSON, G. W. (1940). *Acute Infectious Diseases.* C. V. Mosby Co., St. Louis.

SOME MISLEADING CASES OF HELMINTHIC INFESTATION

By B. B. RAI, M.B., B.S.
Medical Officer, Training Centre for the Demobilized Personnel, Bareilly, U. P.

Case 1.—Patient named Virendra, aged 3 years, from Nawabgunj, District Bareilly, was brought to the Centre with the following