INDUCED LEUCOCYTOSIS IN THE TREATMENT OF INFECTIONS.

BY

W. A. ELLIOTT, M.B., B.S. DURH.

SOME twelve months ago Dr. Burr Ferguson of the United States Public Health Service, Southampton, spoke to me of the results he had obtained by injections of mercury salicylate in the treatment of infective conditions, and I decided to try it in some suitable cases. The method consists in the intramuscular injection of a mixture of mercury salicylate in liquid paraffin (1 grain per cubic centimetre), 1 c.cm. being injected at intervals of one week up to four or six doses, or less if the desired result is obtained earlier. This is the usual method, of course, in treating syphilis. Some of the cases which I tried were as follows:

CASE I.

A man, aged 46, with a condition of chronic infection of the lungs following pneumonia bronchiectasis, had attacks of pyrexia and chest pains whenever he had a chill; they confined him to bed and made him very ill for a time. There were physical signs of chronic pleurisy. He had been immersed in the sea for many hours after a torpedo attack on his ship during the war, and his chest trouble began subsequent to this. During one bad attack I waited until the more acute symptoms had subsided, and then gave him two injections of mercury salicylate, at an interval of five days. The result was a complete recovery, with abatement of all chest pains, and free and easy breathing. The patient was enthusiastic about the treatment. Previous to the injections he stated that he had a chronic depression of spirits, with a feeling as though there was a load on his chest and weights on his legs. After the injections he was buoyant again, and walked more lightly and with the elasticity which he used to have before his attack of pneumonia. The good results obtained have so far persisted.

CASE II.

A man, aged 51, suffering from a fairly large carbuncle on the back of the neck, was confined to bed and suffered from much pain. The carbuncle was being treated with boric fomentations and was steadily enlarging and forming a central crater containing a large mass of hard dead epithelial debris. I gave an intramuscular injection of 1 c.cm. of mercury salicylate, and on the following morning there was a most perceptible softening of the mass. It continued daily to get rapidly better; the slough was cast off and an uneventful recovery ensued.

CASE III.

A woman, aged between 50 and 60, was suffering from chronic dermatitis of the whole body, with bleb formation and much irritation. I treated this with calamine lotion, and in several weeks there was a marked improvement over the whole body, but new formations of blebs continued to appear. I therefore gave two injections of mercury salicylate at an interval of five days, and complete recovery ensued, no further outbreak of blebs occurring. The condition had been troubling her for many months.

For local infections of the skin I have long had a strong faith in calamine lotion, which seems to have a peculiar, or what is usually termed a "specific," effect in healing skin infection. Ferguson has investigated the results on the blood of the injection of mercury salicylate, with the assistance of Dr. Simson, who was tuberculosis officer at Southampton at the time. His results revealed an immediate general leucocytosis in the blood within twenty-four hours of the injection. He has found that certain salts of arsenic produce a similar effect, and that in malaria quinine produces a similar leucocytosis, though not so pronounced. The conclusions drawn are that the "specific" action of mercury, arsenic, and quinine in certain diseases is all due to a general leucocytosis produced in the blood.

In my opinion the local use of calamine lotion produces a local area of leucocytosis which causes its "specific" action in skin infections, and the same effect is produced by unguentum hydrargyri ammoniati. In these cases the salts of the heavy metals zinc and mercury produce the result locally. I have repeatedly noticed a bluish coloration of the skin around the areas treated with calamine lotion, suggesting a blood change at that area. This leucocytosis of the blood is considered by Dr. Ferguson to be the reason for the happy results of intramuscular injections of mercury salicylate in infective conditions, the increased number of leucocytes killing the infective agents.

OPHTHALMOLOGY IN EGYPT.*

BY

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THE problem of subtropical ophthalmology, with which I have become familiar in Egypt, may be considered under two heads—first, as affecting the European population, and second, as affecting the native Egyptian population.

EUROPEAN POPULATION.

1. *Effect of Sun, Dust, and Wind.*—The healthy emmetropic eye becomes painfully affected by the sun's glare in the summer when motoring or riding along dusty roads or over the desert. The heat rays from the red end of the spectrum which cause this may be prevented by wearing protective goggles of Crookes B or B2 material; but if discomfort is complained of the refraction of the patient should be verified under a cycloplegic. There are other varieties of protective glasses, which theoretically are more absorbent of the heat rays than Crookes glasses, as shown by Sir Arnold Lawson at the Ophthalmological Section recently, such as peacock-blue, flouzal, and amber. I have found in a large number of instances that ordinary glass, in which is included if necessary a very small ametropic correction, is all that is required. The effect of sun, dust, and wind in causing pinguecula and pterygium must be remembered.

2. *Effect of Fatigue, Ill Health, and Worry.*—Fatigue, ill health, and worry bring out latent defects in the eyes in any country. A hot climate causes greater fatigue than a temperate, and this may lead to fatigue indigestion, with resulting physical depression. Worry, whether official or private, similarly may cause ill health. Under these conditions trifling errors of refraction, if present, or slight degrees of heterophoria exert effects quite out of proportion to their actual severity. It is therefore of the greatest importance that correction of these errors should be made as carefully as possible, generally under a cycloplegic such as homatropin, and that the correcting spectacles should be adjusted accurately by the optician. In a highly sensitive patient, whose nerves are constantly being jarred by physical or mental discomforts, the correction of a very small degree of astigmatism may make all the difference between happiness and misery. The symptoms which patients with an uncorrected error of refraction complain of are headache, neuralgia, frequent frowning with consequent fatigue of the subcutaneous muscles of the forehead, indigestion, inflammation of the edges of the lids, with perhaps suppurative of the glands of the lid margins, and so on.

3. *Effect of Acute Conjunctivitis.*—The same organisms cause this among the Europeans as among the Egyptians, and will be considered when speaking of the latter. I have seen acute gonococcal conjunctivitis in English children of 2 or 3 years of age, which had no doubt been contracted from the chronic gonococcal conjunctivitis of servants, without any suspicion of venereal taint.

4. *Effect of Chronic Conjunctivitis.*—The chronic conjunctivitis most prevalent in Egypt is trachoma. It occasionally attacks English children who have been taken care of by Egyptian or Nubian servants.

5. *Treatment.*—I have mentioned the importance of the accurate correction of ametropia; the glasses should always be worn in the sun and dust at any rate. This, with a good sun-hat, is all that is required in most cases, but tinted glasses may be ordered if they give relief to the patient. In dusty seasons it is most advisable to wash from the eyelids the dust which collects there and which may contain septic material. This should be done three times a day. In many cases this simple precaution is sufficient to prevent constantly recurring attacks of conjunctivitis. It must not be forgotten that dental apical abscesses and pyorrhoea are a fruitful source of ophthalmic trouble.

* Abstract of a communication read at the Section of Tropical Medicine of the Royal Society of Medicine, February 12th, 1925.

NATIVE POPULATION.

It is impossible to deal even cursorily with all the eye affections peculiar to a subtropical climate. I have, however, selected the following conditions about which to make some remarks: acute ophthalmias, chronic ophthalmias, ankylostomiasis and changes in the appearance of the fundus oculi, bilharziasis and eye conditions, an epidemic of chancres of the eyelid, and fly-blown orbit or orbital myiasis.

Acute Ophthalmias.—The number of new patients attending the hospitals is very much greater in the summer than in the winter, increasing from a winter figure of about 400 a day to a summer maximum of 2,800 a day. The increase is largely made up of acute conjunctivitis cases, especially of gonococcal conjunctivitis. This condition is usually of non-venereal origin, the infection spreading from eye to eye, by means of the fingers, towels, etc. Flies also play a part in the transference of the infection (this was discussed, but cannot be dealt with in an abstract). Traveling to the hospitals is easier in the summer, but the increase in the number of patients is more closely related to the increase of temperature, curves representing these showing similar variations.

[The author also dealt in some detail with the subjects mentioned in the previous paragraph.]

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

DIPHThERIA AT THE AGE OF SEVENTY-TWO.

In view of the rarity of diphtheria at any age over 50, the case here described may be worth publishing.

A lady, aged 72, was admitted on December 17th, 1924, for a fracture of the neck of the left humerus. She was feeble, childish, and demented. On January 24th, 1925, she was noticed to have a purulent, slightly haemorrhagic discharge from the left nostril. A case of diphtheria had occurred in the ward a few days before. A swab was forwarded to the Clinical Research Association, which reported Klebs-Loeffler bacilli present. There was no faucial exudation. A second swab on January 26th was also positive. In view of the unusual age, a third swab was taken on January 27th, from which the Clinical Research Association kindly did a test for virulence. A pure culture of Klebs-Loeffler bacilli was isolated and proved fatal to a guinea-pig in forty-eight hours. The patient's condition forbidding her transfer to an isolation hospital, she was isolated throughout in a small ward here. She received in all 24,000 units of antitoxin. A swab on February 12th was still positive. On February 20th, however, it was negative, and again on February 25th. Meanwhile, on February 23rd, she had a cerebral haemorrhage; she died on March 2nd. I do not think the diphtheria had anything to do with her death.

In my own experience, which has included three years in an isolation hospital, I never met with a case of diphtheria at this age, or indeed anywhere near it, nor have I heard of one.

I am indebted to my colleague, Dr. Thomas Dolan, for the prompt detection of the case, as well as for the treatment and notes.

London, E.11.

J. C. MUIR.

GALL STONES IN A MALE AGED EIGHTEEN:
CHOLECYSTECTOMY: RECOVERY.

I READ a report of this case to the Cambridge Medical Society on February 6th, and as no one present could parallel the age in a male subject I venture to think that it may be of sufficient interest for publication. I have heard of the same condition in a female of 16 years, at St. George's Hospital.

A somewhat frail-looking, pale undergraduate of 18, medium height, and spare, enjoyed ordinary health until the spring of 1924, when he had acute appendicitis, which was "sat on" for ten days. He was ultimately seen when an abscess had formed, and dealt with by a London surgeon, undergoing, in all, three operations. He made a good recovery.

For two or three weeks in November, 1924, the patient had discomfort in the epigastric region about one and a half hours after meals; this subsided with dieting and medicine. On November 17th, while walking in the street with a friend at 2.30 p.m., he was suddenly seized with violent abdominal (epigastric) pain, which doubled him up and made him sweat. He reached home with difficulty, supported by his friend, who put him straight to bed, and called me to see him.

When I saw him at 3.15 p.m. he looked thoroughly ill. The temperature was 97.2° F., pulse 80, respirations costal. The pain

had become less severe. On palpation the upper right rectus muscle was rigid and exceedingly tender. There was no jaundice. The patient did not seem ill enough for perforation, yet the findings, in conjunction with the history and the age, seemed to suggest that the most probable provisional diagnosis was that of a perforated duodenal or gastric ulcer, and I therefore sent him to a nursing home for observation. At 4.30 he was easier, but the pulse had risen to 96. At 7 o'clock the pain had become very severe again, and he looked worse. Laparotomy was decided upon.

At 8.30 I made an upper right rectus incision, displacing the rectus outwards after freeing it in its sheath. When the peritoneal cavity was opened no evidence of any perforation was discovered, but the gall bladder was found to be acutely inflamed and markedly thickened, especially towards the proximal end; it contained small, easily palpable stones. The gall bladder was freed and excised, the ducts being found to be free from further stones. A tube was put in, down to the stump, and the abdomen closed in layers. The patient made a complete recovery.

Pathological Report.—"The stones are dark reddish-brown, and consist of bilirubin chiefly. The wall of the gall bladder is very markedly thickened and tough, and the mucosa is very dark red, and apparently haemorrhagic. Microscopic section shows congestion and haemorrhage into the mucosa, a little superficial ulceration of epithelium, and much submucous round-celled infiltration and fibrosis. A chronic cholecystitis with recent subacute inflammation."

Cambridge.

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ANTERIOR POLIOMYELITIS, HERPES ZOSTER,
AND VARICELLA IN SEQUENCE.

THE following case seems of sufficient interest to place on record. The sequence of events—anterior poliomyelitis, herpes zoster, and finally varicella—suggest the possibility of some connexion between the three conditions.

G. E., a boy aged 5 years, was admitted to University College Hospital under the Surgical Unit on September 4th, 1924, suffering from anterior poliomyelitis affecting all the muscles of the left leg. The condition dated from ten weeks previously. It commenced with headache and malaise, rapidly followed by inability to move the left leg. On admission there was marked wasting of the muscles of the left leg; no voluntary movement was possible in it except to a slight extent through the action of the glutei. The boy was treated by extension on a Thomas's splint and massage.

By October 15th some power had been restored to the extensor muscles. Two days later his temperature rose to 99.4°, and on October 18th herpes zoster developed along the distribution of the first and second lumbar nerves on the right side; an increasing number of vesicles appeared during the succeeding days. By October 23rd the temperature had reached 101°, a generalized chicken-pox rash appeared, and the child was removed to the infirmary. Thirteen days later two further cases of varicella occurred in the ward in which the boy had been.

Another case illustrating the connexion between herpes zoster and chicken-pox occurred some years ago. A girl returned home from school suffering from herpes zoster; her brother, who had been playing with her, but had not been exposed to any other infectious case, developed typical varicella thirteen days after the return of his sister.

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GUMMA OF CAECUM MISTAKEN FOR
CHRONIC APPENDICITIS.

ABOUT a year ago I had occasion to treat a woman for a tertiary syphilitic condition. Her husband, when questioned, admitted that a few years previously he contracted syphilis, but that he was then quite "cured." I advised him to undergo treatment, but he refused. About a month afterwards I was called to see him. He complained of slight pain and discomfort in the right iliac region extending over a period of months; otherwise he stated that he was quite well and able to follow his daily occupation as driver of a wagon. I discovered a lump in the right iliac fossa, with slight tenderness on pressure, and made a provisional diagnosis of chronic appendicitis. I advised operation, and when I opened the abdomen discovered that the lump was an indurated, glistening enlargement of the lower end of the caecum, about the size of a duck's egg. The tumour had a springy feel, and the whole structure, including the appendix, was firmly bound to the posterior abdominal wall by a mass of adhesions. As it was futile to try to remove it the abdomen was closed.

When the abdominal incision healed sufficiently the patient was put on antisyphilitic treatment and the mass rapidly disappeared. When last heard from he stated that he was feeling quite fit and that the pain and discomfort previously complained of in the appendix region never troubled him again.

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