destruction of antiscorbutic. Suggestions are made as to means of preventing this.

6. The germination of dry peas, beans, and lentils before cooking is strongly recommended as a means of providing extra antiscorbutic when fresh vegetables and fruit are scarce or absent.

7. It is suggested that abnormally rapid growth may promote the development of scurvy in children.

In conclusion, we desire to express our gratitude to Professor v. Pirquet, who placed all his valuable records freely at our disposal, and to the members of his nursing staff who assisted us in every way in our investigations.

REFERENCES.

¹ Report on the Present State of Knowledge concerning Accessory Food Factors, Medical Research Committee Special Report Series, No. 38, H.M. Stationery Office, 1919. ² Curran (1847). *Dublin Journ. Med. Sci.*, vii, 83; Hehir (1917). Mesopotamia Commission Report, Sect. x and App. iii. ³ Hehir, loc. cit.; Holst and Fröhlich (1912). *Zeitschr. f. Hyg.*, lxxii, 1; Stevenson (1920). *Journ. Roy. Army Med. Corps*, xxxv, 218. ⁴ Barlow (1883). *Med. Chir. Trans.*, lxxi, 100; Still, *Diseases of Children*, London, 1915. ⁵ Wiltshire (1918). *Lancet*, December 14th; Stevenson, loc. cit. ⁶ Delf (1918). *Biochemical Journal*, xii, 416; (1920). xiv, 211. ⁷ Hill, quoted (1), p. 65; Dyke (1918). *Lancet*, October 19th. ⁸ Chick and Delf (1919). *Biochemical Journal*, xiii, 159. ⁹ Wiltshire, loc. cit.; Dyke, loc. cit.; Stevenson, loc. cit.

TWO CASES OF CARCINOMA ALIVE EIGHT YEARS AFTER RADIUM TREATMENT.

BY

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ONE hears a good deal about apparent cures of cases of carcinoma by radium, in reports written soon after the treatment has ended, but little of what happens to these patients afterwards. The following two cases were seen eight years and one month ago, and radium treatment was started almost immediately.

CASE I.

In July, 1912, a man of 61, who had previously enjoyed excellent health, but was a heavy smoker and took alcohol fairly liberally, sent for me because he had noticed a swelling on the right side of his neck. He also complained that for some months he had had some irritation of the throat, and was continually expectorating small amounts. A hard indurated ulcer with everted edges, of about the size of a shilling, could be seen and felt below the right tonsil. The swelling in the neck was a large mass of hard and fixed lymphatic glands. He was seen by various surgeons in London and the provinces, and all agreed in the diagnosis of carcinoma of the pharynx, quite beyond operative interference.

In spite of the poor results obtained by radium in cases of carcinoma of the pharynx, I determined to give it a trial. I started by giving two applications of radium a week from the outside of the neck, and continued till the skin could stand no more without risk of ulceration, when I lessened the amount of radiation. The whole side of his neck was radiated as far down as the clavicle. At the end of a month there was a decided improvement, both of the primary growth and of the glands.

At the end of six months all signs of disease had completely disappeared. Notwithstanding this, I continued to apply radium about once a week with a few short intervals, when the patient or myself were away, for another six months. He had his last application in July, 1913. Since then he has had no signs whatever of any recurrence, and to-day, eight years after, at the age of 69, he is in excellent health, and able to lead a busy life.

CASE II.

A lady, aged about 60, complained in July, 1912, of a swelling in her right breast. It presented the usual signs of scirrhus carcinoma, and was adherent to the pectoral fascia. There were hard glands in the right axilla, but the supraclavicular glands appeared normal. The right breast was amputated and the axilla cleared.

A piece of the growth from the breast and the whole of the mass of glands and connective tissue removed from the axilla were sent for pathological investigation. The report was that the tumour was a scirrhus cancer, and that not only did the axillary glands exhibit signs of secondary infection, but the fat of the axilla also was largely permeated by cancer cells. It was apparent, therefore, that it was impossible for surgery to have removed the whole of the diseased structures, and as soon as the wound had completely healed I started radium treatment. The whole of the axilla and right side of the chest was rayed, and this was repeated till the skin showed signs of intolerance. Treatment was not left off till July, 1913. During this time there were no signs of recurrence. In November, 1913, a small swelling appeared over one of the ribs near the scar, suspiciously like the commencement of a recurrence. Radium treatment was resumed forthwith, and the swelling soon subsided. I continued applying radium till May, 1914.

She has remained free from symptoms till lately, when she

complained of a cough, and I found rhonchi and râles over the chest, more marked on the right side, but no bronchial breathing. I also think I can detect some enlargement of the liver, but she is stout and the abdomen is difficult to examine. She is a sufferer from rheumatoid arthritis, and is too infirm from this to be willing to undertake a visit to have her chest x rayed, so the diagnosis remains in doubt, but the signs are very suspicious of a recurrence in the lungs and liver.

From the above notes I think it can be fairly claimed that Case I has probably been cured by radium, and Case II has to thank radium for eight years of life, though the chances are that she is after all going to succumb to carcinoma.

If more observers would publish the late results of similar cases that they have been able to follow, it would much help our knowledge of this important subject.

SODIUM BIBORATE IN THE TREATMENT OF EPILEPSY IN AN ASYLUM.

BY

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ON the male side of this institution there are about 60 epileptics, or 11 per cent. of the total number of male patients. The majority are chronic cases, and a large number of them have been resident for many years.

Formerly the routine treatment was a large dose of potassium bromide (gr. xxx) night and morning. Examination of the ward books, in which a record is kept of all fits in epileptic patients, shows that this has had little effect in reducing the number of fits or bringing about any mental improvement. The only change noticeable was a lessening of excitability and an increase of mental confusion.

Sodium biborate is mentioned in medical textbooks as an alternative to potassium bromide. Eight months ago I decided to try a mixture containing potassium bromide and sodium biborate. The treatment was commenced on December 27th, 1919, on the patient J. D. quoted below. The results were so striking in his case, after a fair trial, that it was decided to apply the treatment more widely. The benefit of the treatment has been very marked in all the wards; in two, where the treatment has been in use for four months, the fits have been reduced by 64 per cent., and in two other wards in which the treatment was commenced about six weeks ago there has been a reduction of 68 per cent., and that amongst patients who formerly had fits at regular intervals. It is interesting to note that in the male hospital four of the patients have had no fits since commencing treatment about July 20th. Previous to treatment, three of them never went longer than eight days without having fits, and the other averaged twelve days and then had a bout of from three to five fits.

The following three cases may be quoted as striking examples:

CASE I.

J. D., aged 40, admitted March, 1918; Wassermann negative. From admission until treatment was started the patient was subject to violent uncontrollable attacks of excitement at intervals ranging from three to five weeks. These attacks lasted from one to seven days; the more violent the outburst the shorter the duration. Sedatives had very little effect, and his violence was such that frequently at night attendants were on special duty at his bedside. He also suffered from auditory hallucinations and delusions of suspicion. Since the commencement of treatment, in December, 1919, these outbursts of epileptic furor have disappeared entirely. The fits have been reduced by about 65 per cent., and this in spite of lapses in the treatment of three weeks at one time and two weeks at another. These intervals without treatment were tried to see the effect of stoppage, and in each case the fits returned. His mental condition has improved. There is now no stupor after a fit, and the patient states that he now "feels his head clear."

CASE II.

J. F., aged 33, admitted May, 1917; Wassermann negative. This patient states that he started to "take turns" when he was 11 years of age. On admission he was irritable, quarrelsome, and very impulsive. He was a most troublesome patient, and had fits regularly and in bouts. Treatment was commenced on April 5th, 1920, and his fits have been reduced 86 per cent. He has had none since May 6th. Mentally he is clearer, his memory has improved, he gives no trouble, and now expresses the desire to be allowed out to do some work.

CASE III.

A. B., aged 20, admitted October, 1919; Wassermann negative. This patient, epileptic since childhood, was always in a more or less stuporous state and had very severe "G." fits frequently, and mostly in bouts. Four months' treatment has reduced his fits by 62 per cent. Mentally he is much brighter, and the dazed condition after a fit has disappeared.

The total number of patients in whom the above treatment has been tried so far is forty-two; in all there is a marked improvement in the mental state of the patients, and in all except one the number of fits has been reduced. In addition to the marked mental change and lessening of the fits, other points noticeable are the great reduction in the amount of sedative used, and the marked diminution in the number of accidents which occur.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

LABOUR COMPLICATED BY MARKED ELONGATION OF THE SUPRAVAGINAL CERVIX.

The following case presented such unusual clinical features as to justify recording it in detail.

Mrs. D., aged 31, when admitted to the gynaecological wards of the Royal Victoria Infirmary, Newcastle-on-Tyne, was within a few weeks of full term. There was a marked degree of cervical prolapse; the cervix projected 4 in. beyond the vulva, the lips being oedematous and ulcerated, and the external os patulous. The bladder also was completely prolapsed, so that she had great difficulty in emptying it. The cervical prolapse was associated with elongation of the supravaginal cervix. The condition had first attracted attention one year previously (one year after the birth of her second child), and had steadily progressed, especially since she had become pregnant. She had been confined to bed for six months before admission.

Treatment consisted of rest in bed till full term, cleansing of the cervix by suitable dressings, and urinary antiseptics for the associated cystitis. Replacement of the cervix in the vagina was invariably followed by prolapse, and attempts to retain it by means of gauze packing were not satisfactory, the pressure of the child's head and the bladder inflammation being the two chief obstacles. The relaxed condition of the ostium vaginae also favoured recurrence. Contrary to what occurs in non-pregnant cases, the cervical oedema did not appreciably lessen by rest in bed.

Labour: First Stage.—The membranes ruptured shortly after the onset of labour. The liquor amnii was turbid and somewhat offensive. The cervix was at once pushed into the vagina, and did not again spontaneously prolapse during this stage. The pains were frequent and strong; the cervix was slowly drawn up, and the external os dilated gradually. The child's head was in the pelvic cavity.

Second Stage.—Seventeen hours after the onset of labour the patient showed signs of exhaustion. At this stage the external os was almost fully dilated, but a distinct rim persisted round the periphery of the head. The patient was anaesthetized and forceps applied. On traction being made the head and cervix descended together, and it was quite impossible to push up the rim of the cervix past the head. The actual delivery of the head was identical in every way with delivery over a tight perineum. The external os at this period of labour projected fully an inch beyond the vulva. After delivery of the head the os closed slightly on the child's neck, and the shoulders were freed with some difficulty. The rest of the delivery was normal.

Third Stage.—Ample time was allowed for the placenta to separate naturally, but, owing to rather free haemorrhage, an attempt was made to express it. This resulted in complete prolapse of the cervix and bladder, even more exaggerated than that existing before the onset of labour. The parts were replaced, and a further period passed before a renewal of the bleeding made another attempt at expression imperative. This reproduced the state of affairs described above, and manual removal was decided upon. After thorough cleansing and liberal use of tincture of iodine the hand was inserted, and the cervix was found to consist of a long tube with a marked contraction ring at the internal os. This was slowly dilated and the placenta removed. There was no evidence of laceration of the cervix. A copious intrauterine douche completed the procedure.

Apart from a transitory febrile attack due to cystitis, convalescence was uneventful. The cervix remained exposed, and was carefully guarded by gauze dressings. The patient was discharged some weeks later with the cervix still protruding, but is returning in due course for radical treatment.

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VOLVULUS OF THE WHOLE OF THE SMALL INTESTINE.

The following case is of interest by reason of its rarity:

A weakly boy, aged 18, was admitted to hospital in a dying condition. He had only been at work three weeks after an attack of pneumonia and pleurisy. On the previous afternoon he had eaten fish, followed by an ice-cream, and had then played football. At 6 p.m. he complained of a dull ache in the epigastrium and of nausea; he went to stool, but with what result is unknown. He was never sick. Hot fomentations were given through the night, but the pain grew worse; he was moved to hospital at 8.30 a.m., and died half an hour later. On admission it was clear that he was dying of general peritonitis. A large left scrotal hernia was distended and tender, and the whole abdomen was distended, rigid, and tender; the liver dullness was normal. The boy was too ill for further examination. At the autopsy it was found that the whole of the small intestine from the first free loop of the jejunum to the ileo-caecal junction was strangulated by one and a half complete twists of the mesentery. There was collapse of the whole of the large bowel, and the small bowel was plum-coloured and distended; there was free blood in the lumen of the bowel and in the peritoneal cavity. The hernia, though filled with bowel by reason of the increase of abdominal pressure, was easily reducible through a very large ring. No Meckel's diverticulum nor other anomaly could be found as an exciting cause.

It is difficult to imagine any dietetic or athletic achievement capable of turning the whole of the small bowel through three half-turns. Probably the twist was of developmental origin, and was aggravated to strangulation by some sudden congestion (caused perhaps by injudicious dietary).

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Rebuelus.

MENTAL DEFICIENCY.

IN the volume on *Mental Deficiency*¹ by Dr. A. F. TREDGOLD the medical practitioner will find a sound and trustworthy guide to a subject in respect to which it is now almost essential that he should have a more than superficial knowledge. The second edition was published in 1914; the text has been revised and brought up to date, and the new edition will undoubtedly maintain the position attained by its predecessors and become the standard work on mental deficiency. The book is the product of personal research, extensive clinical experience, wide acquaintance with the literature of the subject, and an intimate knowledge of the social problem which the presence of the mental defective in the community creates. On controversial questions the author develops his own personal views, which are based on experience, a ripe judgement, and a critical survey of current theories; but he is free from bias and dogmatism, and he approaches such questions as heredity, environmental influence and causation in a clear, balanced and scientific manner.

In the first chapter, which is concerned with the nature of mental deficiency, the author indicates clearly and convincingly that it can only be satisfactorily defined in terms of social behaviour. Throughout the book the point is emphasized that the disorder of mind is not merely in the sphere of intellect, but that it is a defect of the personality as a whole which prevents these congenital defectives from reacting efficiently and subsisting by their own unaided efforts. It is this treatment of the clinical aspect of the subject from the adaptive side that gives the book its great practical value. Those who are actually concerned with the problem of the mental defective will here find the greatest help in relation to those cases which present a real difficulty in practice. The difference between the dull or backward child and the high grade ament, the relation between vicious tendencies and mental deficiency, and, above all, the question of the moral imbecile, are subjects which are here dealt with in an exceptionally lucid and masterly fashion. In referring to the statutory definition of mental defect in relation to moral imbecility, Dr. Tredgold writes (p. 360):

In my experience the failure to appreciate the meaning of the term (permanent mental defect) is the chief stumbling-block in the diagnosis and certification of these cases. It is necessary

¹ *Mental Deficiency (Amentia)*. By A. F. Tredgold, M.D., F.R.S. Edin. Third edition. London: Baillière, Tindall, and Cox. 1920. (Demy 8vo, pp. 531; 67 figures.)