respiratory passages are rendered acid a medium is formed which is inimicable to microbial growth.

Note on Immunity from Second Attack.

Navy.—Of 321 cases in patrol in the July epidemic, 2 had return attacks in the October-November epidemic.

Army.—A company of Royal Garrison Artillery had 25 cases in July. None of these were attacked in the October-November epidemic. In a battalion: Of 21 cases of the July epidemic traced none were attacked in that of October-November.

N.E. Works.—From July 10th to 23rd, 73 males and 59 females were attacked; from October 16th to 29th, 29 males and 61 females. Two males and four females were attacked in both epidemics.

From the above figures it would therefore seem that an attack conferred immunity for a certain time.

REFERENCE.

¹ BRITISH MEDICAL JOURNAL, November 18th, 1916.

INTUSSUSCEPTION DUE TO POLYPUS OF SMALL INTESTINE.

BY

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The following case is of interest in view of the number of attacks spread over a long period.

History.

L. H., aged 5, had been under the care of Dr. Watts of Haddon Close. He reported that this boy had suffered all his life from acute intestinal paroxysmal attacks, preceded by vomiting, and followed by tenesmus with the passage of blood and slime. They varied in severity, lasted from twenty-four to thirty-six hours, and occurred about every six weeks. The pain during several of the attacks was most marked in the right iliac fossa. They were thought at one time to be due to chronic constipation, but they persisted even when the bowels had been carefully attended to. On two previous occasions the child had been admitted to hospital, but in each instance the attack passed off, and there seemed to be no direct evidence of intussusception.

Operation.

On April 18th, 1919, he was admitted to the Radcliffe Infirmary under my care. The pulse was 120 and the temperature 99° F. He was then suffering severe abdominal pain; there was some distension, and a mass could be felt in the transverse and descending colon. On examining the rectum a little blood came away on the finger.

The diagnosis of intussusception was made and operation at once undertaken. An incision was made in the middle line below the umbilicus, and the apex of the intussusception found to be in the descending colon. Reduction was easy at first until the appendix appeared, when there was a hitch, due to a lump which could be felt in the caecum, and which refused to pass back through the ileo-caecal valve. Time and patience overcame this difficulty, and reduction was eventually obtained.

The mass, which was about the size of a walnut, was situated in the small intestine eighteen inches from the ileo-caecal valve, the bowel wall being dimpled on the anti-mesenteric border, where it was attached. A longitudinal incision was made in the bowel, and a sessile polypus ligatured and removed. The incision in the bowel wall was closed transversely, and at the same time a very long appendix was removed.

After-History.

The child made a good recovery, but six weeks after the operation there was a slight attack of abdominal pain which soon passed off. The polypus proved on examination to be an adenoma.

The intussusception was of the entero-colic type, the small intestine with the polypus at its apex passed through the ileo-caecal valve for some distance, the caecum, appendix, and colon being subsequently drawn in. The remarkable feature of the case is the attacks of pain, which appear to have occurred at intervals ever since birth. It is probable that in the previous attacks the intussusception was confined to the small intestine, the polypus approaching to or reaching the ileo-caecal valve, but not passing through it until the final attack.

The National Academy of Medicine and the Surgical Society of Rio de Janeiro are compiling a catalogue of all medical publications that have appeared in Brazil within the past hundred years. This catalogue will be distributed at the celebration of the Centenary of Independence which is to be held in 1920. A Congress of Medicine will be held at the same time in Rio de Janeiro under the direction of Professor Fernando Magalhães, president of the Sociedade de Medicina e Cirurgia.

A CASE OF STRANGULATED HERNIA WITH VOLVULUS.

BY BASIL HUGHES, D.S.O., F.R.C.S.,

MAJOR R.A.M.C.(T.F.).

THE following case is of interest for several reasons: First, volvulus occurring in a hernial sac is rare; secondly, the symptoms were remarkably mild considering the condition that existed; and thirdly, the patient gave no trouble during convalescence and the wound healed by primary intention despite the offensive nature of the sac contents.

W. R. was admitted to No. 39 Stationary Hospital on February 14th, 1919, suffering from left-sided strangulated inguinal hernia.

History.—He had had a small left-sided hernia for some months. The day before admission to hospital, after a bout of coughing, the hernia came right down into the scrotum, causing pain and vomiting.

Condition on Admission.—He vomited a brownish inoffensive fluid; he did not seem particularly distressed and he had not an abdominal facies. The temperature was 99° and the pulse 66, good, regular, and steady. He had passed neither flatus nor faeces since the previous day. The abdomen was distended, not particularly tender, but he complained of some pain in the epigastric region. No visible peristalsis was observed. There was a large tender tumour occupying the left inguinal canal and the left side of the scrotum, and the skin of the scrotum at one spot was red and tender. There was no impulse in the mass on coughing; there was definite fluctuation and the tumour was resonant to percussion.

Operation.—The usual incision for the radical cure of hernia was made, but continued a little way on to the distended scrotum. On opening the sac a quantity of blood-stained and very foul fluid escaped. A large gangrenous mass of omentum clothing a loop of gangrenous large intestine was present. The internal abdominal ring was next enlarged, and both bowel and omentum pulled down until healthy tissue was reached. It was then found that the bowel was twisted on itself at the internal ring and that a true volvulus existed. Healthy bowel was pulled down with difficulty. The gangrenous omentum was removed and the gangrenous bowel resected, end-to-end anastomosis being performed. This done, the anastomosed bowel was returned and the radical cure of the hernia was completed, a small glove drain being left under the skin owing to the infected condition of the contents of the sac. The abdomen was then opened by a left pararectal incision, as I was not wholly satisfied as to the true state of affairs. It was then ascertained that the portion of the bowel dealt with was the pelvic colon, that the anastomosis was satisfactory, but that there was fluid present in the peritoneal cavity which was blood-stained but inoffensive. No peritoneal drain was employed.

Curiously enough the wounds healed by first intention, though the inguinal wound was red and looked like suppurating forty-eight hours after the operation. The glove drain was removed at the end of forty-eight hours and the stitches on the tenth day. The bowels moved on the fourth day, and the patient made an uninterrupted recovery.

THE MOVING-WATER BATH.

BY

LIEUT.-COLONEL A. D. WEBSTER, V.D., O.B.E., M.D.

THE effects, both reflex and mechanical, of moving water are apparent in sea-bathing. The pressure and impact of the waves are stimulating, flushing the skin and calling into more or less activity many muscle groups. The surging and the spray below a waterfall have a similar action and reaction. These effects and results have been happily obtained and applied to many morbid conditions of wounded soldiers. It has been found that the muscles of the injured part are invigorated and their nerve connexions restored more rapidly under the influence of moving water. Earlier mobilization is secured.

The temperature of the water is a prime factor and its maintenance a necessity. This temperature need not be very high (cool 65° to 70°, tepid 80° to 85°, or warm 95° to 100° F.), but the effect of the moving water gives the impression through the skin nerves that the temperature is lower than it actually is.

The effect on the tissues resembles that produced when salt has been added to the water or carbonic acid gas generated. The moving water in the bath may be electrified for additional effect, the current being taken from a dry cell faradic or galvanic battery, or the sinusoidal current may be employed.

The Apparatus.

The apparatus is depicted in the drawings: it consists of (1) a bath suitable for the attachment of the apparatus; (2) a motor regulating the movement of the water from a simple wavy motion to one of great turbulence; (3) a heater by which the temperature of the water is maintained or varied as required; and (4) a battery for electrification of the water.

Action and Uses.

The combined effects of the moving water, of constant or varying temperature, and of the electricity are found to be most useful in speeding up the processes of restoration and repair in those cases in which the orthopaedic surgeon has done his part.

The surging water affords at a higher temperature the stimulation and invigoration of a bath at a lower degree. This effect is enhanced or varied by saline and other medication of the water, or by the addition of electricity.

The bath may be used—

1. For its hyperaemic effects.
2. For its restorative effect—(a) To limbs, recovering from severe muscle, bone, or nerve wounds. (b) To function, after orthopaedic surgery.
- (c) To rhythmic return, in the various neurasthenic types.
3. For its general regulating and invigorating effects—(a) In soldier's heart. (b) In V.D.H., by flushing the skin and muscular areas without fatigue. (c) In neurasthenia, gauged to the tolerance of the patient;

a mild wavy motion of the water and the small galvanic or rapid sinusoidal current soothes the neurosis, and more natural sleep is the result. (d) In returning health an agreeable constitutional.

*Index to Reference Numbers on Diagrams.**Primary Essential:*

1. A bath tub.

Movement of Water:

2. Turbine propeller, with guard.
3. Motor to drive propeller.*
4. Resistance to regulate speed of motor.
5. Surging water in bath tub.
6. Partial waterproof cover to prevent splashing over by turbine propeller.

Electrification:

7. Ordinary galvanic and faradic dry-cell battery.
8. One pole electrode immersed in the moving water.
9. One portable pole by which connexion is made in various ways.

Heating:

10. One, two, or three heaters in operation as required to maintain or raise temperature of water.

General Accessories:

11. Chairs for patient receiving treatment of right or left arm.
12. Removable cork seat for patient receiving treatment of leg.
13. Wall connexions for electric motor and heaters.

Methods of Application.

The patient may sit on either chair for treatment of right or left arm, on removable seat at head of bath for treatment of leg, or lie as in ordinary bath, the portable pole (9) being suitably adapted to each case.

NOTE.—The water may be medicated as required. The moving-water bath is to be seen working at the premises of Messrs. Fraser, Walker and Co., 82, George Street, Edinburgh.

* The propeller may be operated by hand or other means.

Memoranda:**MEDICAL, SURGICAL, OBSTETRICAL.****A SPORADIC CASE OF ENCEPHALITIS
LETHARGICA.**

A WOMAN, aged 27, married, with one child, had been treated for fourteen days for slight deafness and noises in the left ear, and an occasional dizzy feeling on getting up in the morning. On the evening of the fourteenth day she was suddenly seized with severe pain at the back of the head, radiating down the cervical spine. The temperature was 102°, pulse 92. There was no vomiting; the pupils and knee-jerks were normal; neither Babinski's nor Kernig's sign was present. This condition remained till the morning of the fifth day, when she complained of diplopia and stiffness of the neck and back. There was an external strabismus of the right eye; the pupils reacted to light and accommodation but were slightly dilated and unequal, the left being more dilated than the right. The retraction of the muscles of the neck and back had increased. Kernig's sign was well marked on both sides.

Two days later the squint in the right eye had disappeared, but there was internal strabismus of the left eye, with dilatation of the pupil. The right pupil was normal, and both reacted to light and accommodation. The retraction of the neck remained. Babinski's sign was present on the right side, but not on the left. There were no sensory changes. This condition remained till the patient died on the tenth day. Two days before death there were spasmodic contractions of the muscles of the face and neck, with difficulty in swallowing. There was also incontinence of urine and faeces.

The temperature varied throughout from 102° to 104°, reaching 107° just before death, with a corresponding pulse. There was no vomiting nor paresis. The optic discs were normal throughout. The patient was in a

lethargic condition from the second day onwards, but was not unconscious till the day before death. The fluid obtained by lumbar puncture on the fifth day was under increased pressure, but not turbid. No micro-organisms nor leucocytes were found on examination.

The diagnosis was confirmed by Sir Henry Davy of Exeter, who was asked to see the case. No other case of the kind had occurred in the district, nor had the patient left her home for some months.

Permission for a *post-mortem* examination could not be obtained.

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NASAL OBSTRUCTION AND DENTAL DECAY.

DR. W. H. BOWEN, in the BRITISH MEDICAL JOURNAL of October 4th, 1919, notes that dental decay sometimes follows on mouth breathing. In 1917 I pointed out to an officer of low category that he was a mouth breather because of a deflected nasal septum. By practice he became a nasal breather, and was transformed from semi-invalidism to health.

I met this officer eighteen months later, and he assured me of his continued good health, and, pointing to his now well distended active nostrils, said "That is why." Then he added: "I saw the dentist to-day—the first time for two years—and asked him why I no longer had toothache in three of my remaining six teeth. The holes are big and the edges look black enough to give me lots of pain. The dentist examined my teeth and said 'The surfaces of these cavities are healed over.'" The officer then added: "Two of these teeth were worrying me a lot just about the time you showed me I was a mouth breather." He then said: "I was never out of the dentist's hands from my boyhood until the time I had the luck to meet you and got your tip. I have made no change in my life except I breathe through my nose."

CHAS. J. HILL AITKEN, Captain R.A.M.C.