

ciated and allied, and these other causes must come in for our consideration and treatment. Furthermore, it must not be lost sight of that causes of reflex irritation may exist though undiscovered by the physician; and he will be most successful in his treatment of such cases who makes the most careful investigation into these possible reflex irritants.

(d) Direct volition is a factor which must be regarded as present in some of the cases. The child awakes with the desire to micturate, but does not get up to do so because of unwillingness to rouse itself sufficiently, because it is afraid of the dark, because it is cold, or for some similar reason, preferring to wet the bed to subjecting itself to the discomfort of getting out of it. Or it may be an act of direct wilfulness, which latter would belong to the class of cases alluded to by Sachs in which "many practitioners advise punishment."

(e) Auto-suggestion, I believe, also played an important rôle in some of my cases. For some reason or other, the habit once instituted is continued by auto-suggestion. A child who wets the bed is scolded, ridiculed, or maybe punished for it, and it assumes immense and exaggerated importance to his mind. He is constantly thinking of it and wondering about it until the fear of it becomes a fixed idea. To such a case the apprehension leads to auto-suggestion and enuresis follows. In this class probably belong the cases mentioned by Bernheim,² in which a boy of thirteen and a boy of seventeen were cured by hypnotism, each in a single *séance*; by Liebault, of a girl of eight cured by hypnotism, and by Albert Moll.³ Goodhart, in his "Diseases of Children," speaks of "a form of nocturnal incontinence which replaces the seminal emissions of the mature organism." Such cases I regard as automatic, and include in this class. I have now under my care a man who is troubled by diurnal incontinence of urine which is unmistakably due to auto-suggestion, and I am further inclined to the belief that auto-suggestion explains the efficacy of many of the vaunted remedies.

(f) Of retarded mental development nothing need be said. It is merely necessary to bear in mind that the nerve supply of the bladder is only slightly developed during the first one or two years of life, and that this condition may persist longer through retarded development.

(g) Enfeeblement of the will is a factor of more serious importance and of more frequent occurrence than is probably generally recognized. Inhibitory impulses are conveyed from the brain to the spinal centres, and these restraining impulses are undoubtedly operative during sleep. Any cause which may lead to enfeeblement of these centres may lead to nocturnal incontinence, in which case it may be a symptom of grave import—a warning note, which if properly interpreted, may enable us to inaugurate such a system of hygienic education as will ward off some of the neurasthenias and hysterias of adult life. Such an hypothesis is difficult of proof, yet it has occurred twice in my own experience; once in the youth of a young woman who has suffered from neurasthenia, and once in a child who was subsequently hysterical. I find mention of youthful enuresis in the history of one of Krafft-Ebing's cases—an instance of grave mental disturbance occurring in an adult male; and Dr. S.

G. Webber writes me, "I have had several cases of neurasthenia where there was nocturnal incontinence in childhood." Dr. R. T. Edes, in answer to an inquiry of mine, mentions the cases of two persons in his experience in whom this symptom occurred; one of whom is "not a neurasthenic in the ordinary sense, but lacking in certain mental attributes, and the other who is peculiar and of deficient intelligence." This last factor I offer as a suggestion which experience may prove to be of future utility.

Nocturnal incontinence is therefore to be regarded as a symptom, varying in degree from a simple indication of the naughtiness of a wilful child to the precursory warning of subsequent nervous deficiency, and the treatment of the condition requires careful study into the causation of each particular case. No case should be lightly dismissed as of trivial importance until such careful investigation has been made. When tonic treatment is indicated, I regard the iodide of potash as an extremely valuable remedy. Personally, I have seen no benefit derived from raising the foot of the bed.

Clinical Department.

A CASE OF CERVICAL RIB, WITH OPERATION.¹

BY J. COLLINS WARREN, M.D., LL.D.,
Professor of Surgery in Harvard University.

MRS. B., thirty-five years of age, is tall and thin and has enjoyed good health. Has had two children. For a number of years has supposed she had rheumatism in her shoulder, and for two or three years much pain. The principal pain is at about the middle of the right clavicle, extending down the arm and sometimes reaching the lower end of the ulna. Of late the power of the arm seems to have diminished, and the pain has increased so that she is frequently prevented from sleeping at night.

On examination a bony tumor is observed behind the middle of the right clavicle, arising apparently from the first rib; overlying it is a large artery which at times appears to give a sensation of pulsation to the whole tumor. The outer border of the tumor is particularly sensitive, on the opposite side of the neck a similar bony prominence is felt, but it is much smaller.

A large rectangular flap was turned up, uncovering the whole region of the tumor, and after the fascia was incised a bony mass was observed upon which lay upon the inside the subclavian artery and on the outside the brachial plexus. On further dissection the bony mass was found to be a rib articulating with the first rib by a facet situated a short distance behind the insertion of the scalenus anticus. The scalenus medius was inserted into the cervical rib. This rib was disarticulated and removed piecemeal, nearly up to the point of its origin from the seventh cervical vertebra.

The removal of the bone seemed to relax the brachial plexus which had been somewhat stretched by the the arching position of the bone. The wound healed by first intention and the patient has experienced little or no pain since and is recovering the use of the arm.

[The patient was shown at the meeting, about two months after the operation, and expressed herself

¹ Suggestive Therapeutics, pp. 350 and 351.

² Hypnotism, p. 316.

¹ Read at the first Clinical Meeting of the Medical Board of the Massachusetts General Hospital, December 16, 1895.

greatly relieved by the operation. The arm is steadily gaining in strength. The rib was also shown as well as several specimens of cervical rib kindly loaned by Prof. Dwight from the Warren Museum.]

Reference to the literature of this subject shows an exhaustive paper by Ehrich² of which the accompanying is an abstract.

Although the occurrence of cervical ribs is not uncommon, cases in which they have given rise to symptoms are exceedingly rare in literature. They are usually accidentally discovered, and possess only an anatomical and embryological interest. Gruber, at St. Petersburg, has described 76 cases; and Pilling, of Rostock, has increased the number to 139. In only three of this large number did the cervical rib give rise to symptoms. Ehrich is able to add two cases from personal knowledge, and five from literature, making ten cases.

Cervical ribs are second in frequency of recurrence to lumbar ribs. They have been found at all ages down to a six-months' embryo. They occur oftener double than single. In Pilling's cases, the proportion was 37 to 16. They always are connected with the seventh cervical vertebra. They have a costal cartilage only in those cases where they articulate with the first thoracic rib or with the sternum.

The connection with the first rib is usually with the bone itself, and may be bony or fibrous. It may be connected with the cartilage, and in this event the connection is fibrous.

In the first, or rudimentary form the rib reaches no farther than the transverse process of the vertebra. In the second, or more developed form the rib extends beyond this point. In the third form the rib extends far beyond this point, even forward as far as the cartilage of the first rib, and unites by a ligament or by its end with the first rib cartilage. In the complete form the cervical rib resembles a true rib, and has a cartilage uniting with that of the first rib.

With regard to the relation of the subclavian artery to the cervical rib, the artery always runs over it when the rib is of sufficient length, otherwise the artery runs in front of it and over the first rib. In the cases where the rib has caused symptoms due to pressure in the subclavian artery and brachial plexus, it has seemed to "grow forward" onto them and cause pressure symptoms.

In all the eight cases which Ehrich has found reported, there have been present symptoms of pressure on the brachial plexus. In three cases pressure on the subclavian artery has given rise to aneurism, in the others to thrombosis somewhere in the course of the artery, and interference with nutrition has resulted.

Poland reports a case of double cervical rib in which aneurism was produced on the right, which was cured by digital compression for ninety-six hours. Poland described this as a case of abnormally high first rib, but his description leaves little doubt that he had to do with a case of double cervical rib.

Adams reports a case of double cervical rib, with aneurism of the subclavian on the left, verified by autopsy, which he described as rudimentary or deformed first ribs.

Baum reports a case similar to Poland's, in which the condition was recognized as due to a cervical rib, and the aneurism cured by compression.

Hodgson and Choper report cases in which throm-

boses were produced in the distribution of the subclavian, attended with a lowering of temperature, and interference with the nutrition of the arm.

Coote operated on a case in which an exostosis growing from the end of a cervical rib lifted up the subclavian so as to simulate an aneurism. Pressure symptoms were relieved by the operation.

Planet operated and resected the end of a cervical rib for symptoms due to pressure on the brachial plexus. The pleura was opened during the operation, but no harm resulted, the pneumothorax even disappearing. Recovery from the symptoms followed the operation.

Fischer operated upon an exactly similar case.

Ehrich's first case was that of a seventeen-year old female, for whom Madelung extirpated a cervical rib for symptoms of pressure in the brachial plexus and subclavian. The use of the arm was recovered, but pulsation never returned in the brachial.

The second case was a male, twenty-four years of age, on whom Karg operated for pressure in the subclavian and brachial plexus, and found the subclavian compressed between two ribs, which were connected with the sixth and seventh cervical vertebrae. After the operation a small aneurism of the subclavian was found. The pressure symptoms disappeared.

The symptoms produced by cervical ribs may be classified as local and functional. The second group, functional symptoms, may be also divided into two groups: (1) symptoms due to pressure on the brachial plexus, and (2) those due to pressure on the vessels.

The local symptoms are:

(1) A bulging, instead of the normal depression of the parts, just behind the posterior border of the sterno-mastoid muscle and above the clavicle.

(2) A visible and tangible superficial pulsation high up in the supraclavicular region. (This may be absent if thrombosis has taken place, or if, as often happens, the subclavian runs in front of and not over the rib.)

(3) The presence of a smooth, immovable tumor of bony hardness, in the supraclavicular region.

The functional symptoms are:

(1) Disturbance of the circulation, such as aneurism believed to be due to the sharp bending of the subclavian, or compression symptoms, such as thrombosis, attended with pallor and coldness of the arm, perhaps gangrene of the fingers and muscular atrophy. (This may be in part due to the compression of the plexus.)

(2) Symptoms due to pressure on the brachial plexus are motor and sensory disturbances, such as pareses, severe neuralgic pain and paresthesia, numbness, etc.

Other bony tumors in the same region, for example, existing from a first rib, may produce the same symptoms, though they are usually less marked.

The prognosis after operation is good.

Since the above paper was written, four other cases have been published.³

In addition to Ehrich's paper I find reference also to one by Tilmann⁴ who reports the case of a seamstress, forty-four years of age, who had suffered for seven years with pain in the left side of the neck and had trifling sensation in the left arm with loss of strength and emaciation of the muscles. During the operation the left pleura was opened; but this did not interfere with convalescence. The relief from pain

³ Bornhardt: *Berliner klin. Woch.*, No. 4, 1895.

⁴ *Deutsche Zeitschrift für Chirurgie*, Bd. xli, p. 330.

² *Beitrag zur klinische Chirurgie*, Bd. xiv, Heft 1.

was marked, but four months later the muscles had still not regained their strength. Tilmann refers to the fact that in most of the cases the symptoms of pressure do not show themselves until middle life, and attributes it to the fact that the disappearance of fat with advancing years leaves the bone more prominent.

A CASE OF PELVIC CELLULITIS WITH ABCESS: MISCARRIAGE, PYEMIA, CELIOTOMY, DEATH.

BY EDGAR GARCEAU, M.D.,
Surgeon to Out-patients, Free Hospital for Women, Boston.

Mrs. L. was a German woman, forty-two years old. She was of medium height and in poor physical condition, having been exhausted by hard work. Thirteen years ago she had malaria, but there had been no return of the disease. She had three children. For the past six months she had had pains in the left inguinal region, which bothered her a good deal but had never been severe enough to interfere with her duties. Her menses were always regular and normal. In her exhausted condition she became pregnant, but the pregnancy advanced only to the third month when, after three or four days of chills and high fever, she aborted. One week later I was called to see the case by Dr. Charles Stone, the attending physician. Since the miscarriage the chills and fever had continued without interruption and there was severe pain in the abdomen in the left iliac region. Four days after the miscarriage pain was felt in the elbow-joints, in the metacarpo-phalangeal joint of the right forefinger as well as in the metatarso-phalangeal joint of the right big toe. She was suffering great pain in these joints and they were all swollen and red, but there was no fluctuation felt over them. The temperature was 106°, and varied at intervals of a few hours. The chills were frequent, and the general condition very poor. She was very restless, and was tortured by a burning thirst. The mind was clear but the expression was anxious.

On examination the uterus was found to be somewhat subinvolved; the lochia were not offensive. On the left side of the uterus was a mass the size of a hen's egg, occupying the position of the tube and ovary; the mass was very sensitive, and gave a sense of semi-fluctuation when examined bimanually.

As the surroundings prohibited an operation she was sent to the Boston City Hospital, and celiotomy was done at once by Dr. H. L. Burrell. At the operation the mass was aspirated and pus found. Using the needle as a guide, the sac was incised, and about three drachms of foul pus let out. Careful examination showed that the tube and ovary of the affected side were normal, and not involved by the inflammation which seemed to proceed entirely from the broad ligament. The operation lasted twenty minutes, and was not followed by much shock.

The next day the abdomen was tympanitic, but the patient was quite comfortable; skin, moist; eyes, anxious; tongue, cracked and red and dry; joints, unchanged; temperature, 101°; pulse, 140. The next day she died, the cause of death being general peritonitis and pyemic poisoning.

In this case it is interesting to note that the pyemic focus was in the broad ligament, and that the tube and ovary were perfectly normal. How long this focus had existed is uncertain, but the history of previous

pain and discomfort indicates that it was present some time before the miscarriage took place; and the chills and fever also happening before the miscarriage, strengthens this view. Her miserable general condition made it impossible for her to rally after the operation. It is quite probable that her lowered vitality fostered the development of the pyemia.

Medical Progress.

REPORT ON PROGRESS IN THORACIC DISEASES.

BY GEORGE G. SEARS, M.D.

PNEUMO-THORAX WITHOUT PERFORATION.¹

LEVY reports the first well-authenticated case of the spontaneous production of gas in a pleuritic exudation. The patient was a man, forty-eight years old, who gave no history of previous lung disease. During the course of two months he had been aspirated five times for a large serous effusion into the pleura. A week after the last puncture signs of pneumo-thorax developed, which increased during the next few days so that a permanent opening into the chest was made. Death resulted one month after the appearance of the pneumo-thorax. At the autopsy an old cheesy focus was found at the apex of one lung, with miliary tuberculosis of the peritoneum, especially in the lower surface of the diaphragm, and a fibrinous pleurisy, but no evidence of a previous perforation could be discovered. Anaerobic cultures of the effusion, which remained serous to the end, showed the presence of the same bacillus which the writer had previously described in a case of parametritic abscess containing gas, and which was later found by E. Fränkel in four cases of phlegmon also containing gas. Its subcutaneous or intraperitoneal injection into guinea-pigs rapidly killed them and produced at the site of inoculation a serous exudation filled with bubbles of gas. The sudden development of pneumo-thorax in the case reported was undoubtedly due to this micro-organism, but the way in which it reached the pleura is inexplicable.

THE ETIOLOGY OF ACUTE SEROUS PLEURISY.

Eichorst² makes an important contribution toward the elucidation of the question of the relationship between acute serous pleurisy and tuberculosis, because his results are based on inoculation experiments and not on clinical observation, in which two sources of error are unavoidably present: first, the possible coincidence of two diseases which are so common; and, second, the possibility that the lung had been so crippled by the pleural effusion that it paved the way for a secondary infection by the tubercle bacillus. During the past two years he has inoculated guinea-pigs, which are particularly well adapted for experiment from their great susceptibility to tuberculosis, with the serum withdrawn from the pleural cavity of every case which was admitted to his ward with this disease. At first he used an ordinary Pravaz syringe holding a gramme, and was successful in but one case out of eleven. Later he used a syringe holding about 15 cm. and was successful in 15 out of 23 attempts (65.2 per cent.), the serum being taken from patients who had come down with pleurisy while in the best of health and

¹ Archiv f. exper. Path. u. Pharmacol., Bd. xxxv, Hft. 4, N. S.

² Correspond. f. Scher. Aertze, July 1, 1895.