admitted the forefinger. No stricture was present. These four openings were closed by one line of sutures, by turning in the intermediate bridges of tissue and stitching the upper edge of the upper hole to the lower edge of the lower hole. The omentum was then fixed over the suture line on the intestine. The sinuses were packed with gauze and provisional sutures placed in the abdominal wall, while the whole wound was packed with gauze. There was no leaking from the intestine. The sinuses and a part of the wound granulated, and were finally scraped and stitched together, uniting them as if by first intention.

The patient was discharged well and has remained so.

CASE II. J. M., man, age twenty-five years. On July 10, 1894, I resected four feet of small intestine [1] (jejunum) for gangrene due to occlusion of the mesenteric veins. I then stitched the ends of the intestine into the abdominal wound, thereby making an artificial anus. In about two weeks after the first operation it became evident that the patient was losing flesh on account of the fistula so high up in the digestive tract. The discharge from the bowel was very irritating and was actually digesting the adjacent skin.

On July 27th I freed the ends of the bowel and stitched them together. I found the intestines matted together with endless adhesions so that it was impossible to find smooth peritoneal surfaces. The suture ends therefore lay in a mass of adhesions and the wound was packed with gauze. At the end of a week an irritating stitch was removed from the intestine. At this point a slight leaking of intestinal contents occurred. The wound then closed, leaving a small fistula, but the patient gained flesh rapidly and was able to go about controlling the discharge with a water truss.

On November 16th I did another intestinal resection and completely closed the fistula. At this operation I found that the previous operation had caused a narrowing in the calibre of the bowel. I therefore made the resection wound slanting instead of at right angles to the bowel. The wound was closed without drainage. The patient made a rapid recovery.

CASE III. Patient, female, age twenty-two years. In July, 1892, had a severe attack of pain in the right iliac fossa. Remained in bed for three months with a dull pain, and lost much flesh. Pus appeared in the discharges from the bowels and was accompanied with a severe diarrhea. She entered the hospital September, 1893. In October a large abscess in right iliac fossa was opened by Dr. Richardson. The discharge from this soon became fecal and later nearly all the feces came through the fistula. At one time the fistula seemed to grow smaller after being completely dammed up with gauze for several weeks. I first saw her in August, 1894, and the fistula then showed no sign of closing.

Operation.— August 23d. After a tedious dissection of various sinuses running in different directions, a normal appendix was found and removed. The cecum was then with great difficulty dissected from its bed of firm adhesions and on its under side nearly as high up as the colon a fistulous opening was found, and closed with great difficulty, the omentum being fixed as a protective over the suture line. A sinus was found extending a long distance up into the muscles of the back, presumably due to the burrowing of feces when the experiment of closing the external opening was made. The whole wound was packed with gauze. There was no leaking and the patient made a slow but complete recovery.

CASE IV. Patient, female, age nineteen years. In January, 1895, Dr. Mumford opened an appendix abscess. In June the patient returned to the hospital with a fecal fistula in the right side which discharged nearly all the contents of the bowel.

Operation. — June 15, 1895. Skin and scar about fistula opening dissected up. Fistula then closed temporarily to prevent flow of feces. Just before opening the peritoneal cavity the wound was disinfected and a clean set of instruments taken. Two large openings high up in cecum found and closed. Fistulous tract entirely removed, and the wound closed without drainage. Prompt recovery.

CASE V. Patient was operated on for acute appendicitis by Dr. Newell at the hospital in August, 1895. A fecal fistula resulted.

September 23d. The opening in the bowel was closed by suture. Good recovery.

CASE VI. Patient, female, age twenty-nine years. Entered the hospital in June, 1887. Ten months previous to entrance she had had pain in the right iliac fossa and was soon unable to walk, later a pelvic abscess in right side was opened and drained *per vaginam*. Two months later the right tube and ovary were removed. Two weeks later a deep abscess formed on right side, which was opened near the anterior superior spine of the ilium. This resulted in a fecal fistula.

Operation. — September, 1897. The sinus was dissected down to intestine without opening it. Three coils of intestine joined the sinus, a probe in the tract entered two of these coils. These two openings were closed by Lambert sutures and dropped. The wound was then disinfected with peroxide of hydrogen and closed tight without drainage. The general peritoneal cavity was not opened. The wound healed by first intention and the patient made a perfect recovery.

[1] Annals of Surgery, January, 1895.

MENIERE'S DISEASE.[1]

BY GEO. CARROLL SMITH, M.D., BOSTON.

I WILL make the report of a case at present under treatment the introduction of my paper to-night.

The patient is a clergyman, sixty-two years old; of good family history, barring two brothers who died of malnutrition and two sisters who died underfed. Childhood not instructive; at twenty-eight had nervous prostration from overstudy in the university and began to have eye troubles, especially astigmatism. Has since had some one of the muscles of one eye cut twenty-seven times by a New York specialist. For thirty years has been afflicted at times with nervous dyspepsia and constipation. Present illness began last April while he was sitting one evening conversing in the library, feeling as well as usual, when suddenly he felt as though he was seized by some power and hurled at a distance of several feet to the floor, striking with great force on his left side. He was momentarily unconscious, but he arose with the assistance of a friend and tried to walk, but was unable to because of vertigo, and sought refuge on a couch, when vomiting began and continued

[1] Read before the Suffolk District Medical Society at its Annual Meeting, April 30, 1898.

at intervals all night, as did the vertigo, notwithstanding the recumbent position.

Added to these symptoms a most disagreeable noise in the head became apparent, sometimes hissing in character, and sometimes puffing like a locomotive. The next day he noticed he was deaf in the left ear, and although able to walk about with a cane he was dizzy and had some nausea, and a continuous tinnitus. His local physician pronounced it a bilious attack, and with cholagogues his dizziness subsided, and he had no further trouble for five weeks, when he had a similar though much milder attack, which was repeated the following week. He then sought the advice of a disciple of Salisbury, and was told that he was suffering with stomach disease. He was accordingly given the strict Salisbury diet, and reduced thirty-eight pounds in weight during the next five months. During this time he had six seizures similar to the last, never losing consciousness, but being often thrown suddenly to the ground, after which there was always nausea and often vomiting and more tinnitus. During all this time the noises in the head were continuous and sometimes much exaggerated at the time of the fall. The deafness though incomplete has never improved since the first seizure.

Aside from the weakness engendered by his effeminating diet he is comfortable during the intervals. No headache or visual disturbances. The physical examination reveals a pale, cadaveric-looking man of medium size, about twenty-five pounds under weight. Slight fibrillary twitchings about the face. No impairment of other cranial nerves except the left acousticus could be found. Arteries moderately sclerotic; heart weak but otherwise normal; lungs and abdominal organs normal; throat, eustachian tube, external auditory canal and tympanum normal. He never had middle-ear catarrh. No papillary changes.

You will all recognize the picture as classical of Meniere's disease. In 1861, Meniere first described this symptom-complex, and showed in his case at autopsy that it was due to disease of the labyrinth. He found a reddish plastic exudate into the labyrinth.

During the few years following his cases several other autopsies corroborated his view, and Fluorens found that he could produce the Meniere symptom experimentally by disturbance of the normal function of the labyrinth. Hillairet was the first to promulgate the idea that an isolated lesion of the acoustic nerve could cause the same symptom-complex, and Alt recently reported a case of leukemia with autopsy in which the trias was most marked. His patient was suddenly seized with noises in the head and vertigo, and fell to the floor losing consciousness. He became completely deaf in the left ear and the hearing was impaired in the right.

Professor Weichselbaum made the post-mortem and found leukemia myelo-lienale. Obersteiner found by microscopical examination numerous leukemic spots in the intramedullary course of the acousticus, and in both the lateral roots well-marked leukemic infiltrations; especially where the two roots come together, the round-cell infiltration was marked. The pia at this point was thickened and permeated with small cells, lymphocytes with well-stained nuclei. Slight infiltration was found in the region of the right acoustic. The fibres of the left nerve were atrophied slightly. The fourth separate nuclei of the eighth, the posterior tubercular quadrigemina, cerebellum and temporal lobe showed pathological change, and there was no lesion of other cranial nerves and no hemorrhage or trace of an old one. The labyrinth and middle ear were examined by Kaufmann and found normal. The finest changes in the end distributions of the eighth nerve could not be ruled out. This is the only case of Meniere's disease that I can find reported in which the autopsy showed a lesion of the *nerve trunk*, undoubtedly because the examination of the nerve in its entire course was omitted because a lesion was found in the labyrinth or in the adjacent brain tissue, abscesses, tumors, etc. Gruber, who has made a careful examination of one hundred cases, says that a secretory exudate into the labyrinth is much oftener found at autopsy than hemorrhage, and this explains why the disease is often met in alcoholics and divers, whose intracerebral pressure undergoes sudden and extensive changes, as well as in cerebral affections and in disease of the middle ear.

Meniere held that the disease which bears his name was an affection of the semicircular canals. We now know that these canals are concerned in equilibration and that the vestibular nerve supplying their ampullæ may be affected without the hearing being impaired. But the symptom-complex, as he observed it, must be due to an impairment of function of both the vestibular and cochlear nerves. Such impairment may originate within the internal ear or without.

Among the causes originating in the labyrinth are: labyrinthitis, syphilis, leukemia, anemia, hyperemia, extravasation, trauma, toxemia. *Causes without* are affections of the middle ear and wax in the external ear, on the one side, and disease of the nerve trunk and nuclei and meningitis, tumors, abscesses and diseases of the seventh and fifth nerves, on the other. And we occasionally see the trias occurring in hysteria and epilepsy in the form of an aura, and in migraine. The latter are termed by Gilles de la Tourette as pseudo-Meniere's disease, on account of the Meniere symptom occurring in so many different affections. Many authors have thought to drop the disease called Meniere's, but it is perhaps better to restrict Meniere's disease to vertigo and its accompaniments due to disease or injury of the labyrinth, and I shall ask your attention to the symptoms which such a lesion presents.

VERTIGO.

The vertigo shows the greatest variation in character. It may be paroxysmal or continuous. When continuous, it is usually slight in character and does not prevent the patient from walking about. There may, however, be intervals of apparent exacerbation when the vertigo becomes more marked and the patient is obliged to seize hold of an object to keep from falling. The attack may be excited by sudden turning or changing the position of the head, or by a paroxysm of coughing. On the other hand, the seizure comes on during sleep and awakens the patient. In other cases vertigo only appears during a paroxysm, and these paroxysms may recur at intervals of days, months or years. In other cases the vertigo is so severe and continuous as to compel the patient to remain in bed all the time, and to frequently have his position changed, as his dizziness is persistent even in the recumbent position, suggesting more affection of some one or two of the canals. Frank'l Hochwart suggests the name of "Status Menericus" for the severe form. The vertigo may be subjective, objective, or both. When the pa-

tient feels he is turning or falling, he usually turns or falls in the direction of the affected ear, and when both ears are affected, toward the one most affected. Combined with this lateral tendency there is often a strong inclination to go forward or backward. When external objects seem to move, it is most often in the direction of the subjective sensations though not always. These sudden, irresistible impulses to forward movement occasion the sensation in the patient so often described as that of being hurled and landed at a distance from the place of seizure. If the patient loses consciousness it is only for a moment, and in cases of intense subjective vertigo and sudden onset styled the apoplectic form. No dazed feeling follows the attack as in epilepsy, but the vertigo may continue for a few hours or longer. When severe it is generally followed by vomiting, pallor of countenance and cold sweat. After the stomach is emptied bile appears as usual, and this is regarded as sufficient proof of biliousness. Indigestion, of course, follows for a day or two.

Ocular symptoms are present in some cases reported by Gowers, Mendel and Mills. An increase of pressure in the labyrinth as well as firm pressure of the antitragus over the meatus may cause nystagmus, and one case of nystagmus is reported which lasted ten years after the affection was cured. In this case the labyrinthal disease was secondary to middle-ear affection. Diplopia has been reported as an occasional symptom, probably due to the nystagmus being unequal in the two eyes.

DEAFNESS.

Deafness is usually one-sided; is always present in some degree, but rarely ever complete, depending, of course, upon the degree of affection of the cochlear branch, or the amount of irritation which the cortical centre of hearing in the superior temporal convolution has received from the disease going on in the labyrinth. It is well to remember that cases reported by Frank'l Hochwart revealed at autopsy labyrinthal disease, without ever having had attacks of vertigo, and if the vestibular branch can escape, in all probability the cochlear trunk may at times escape, but then our symptom-complex would be incomplete.

TINNITUS.

Tinnitus assumes a great variety of forms, from a mere soft sighing or whistling to the puffing of a locomotive or the letting off of steam. It varies much in pitch and intensity, and does not assume the form of tunes or words. It may be very loud or rumbling, throbbing or beating in character, and may be synchronous with the heart's action.

Tunes and words are suggestive of cortical lesion, but patients falling asleep may often imagine they hear music and words, and it is possible that tinnitus may be the beginning of auditory hallucinations. The location of the morbid sound may be in the ear or in any other part of the brain. If both ears are involved it is heard in both and may be louder in one than in the other.

Tinnitus might be called a paresthesia of the nerve of hearing and may be due to noise within or without the labyrinth. Excessive stimulation of the acoustic causes it, as well as disease in the labyrinth, the nuclei in the medulla or in the cortical ganglia. This symptom, of course, renders the deafness marked and will never cease unless complete deafness occurs.

To make a diagnosis of Meniere's disease it is necessary, first, to rule out disease of the external and middle ear, remembering that the Meniere symptom-complex often occurs as a symptom of the latter, and that the two may co-exist. Second, to exclude brain lesions, meningitis, cerebral tumors, especially of the pons medulla cerebellum and posterior lobe of the cerebrum. The mind is undisturbed in uncomplicated Meniere's disease, and other cranial nerves, as a rule, escape or are only partially affected. There is no paresis of the extremities. The absence of headache is a marked symptom, while in the afore-mentioned cerebral affections some one or more of the above symptoms stamps the affection as extra labyrinthal. Frank'l Hochwart reports two cases in which the seventh nerve was completely paralyzed, but in these cases he thought the disease originated in the rupture of a small aneurism of a branch of the basilar artery. Mendel explains the occasional affections of some of the eye muscles in Meniere's disease, by the circulatory changes through disturbance of the internal auditory artery before it enters the internal auditory meatus, by changed pressure conditions of the cerebrospinal fluid, including variations in the endolymph of the labyrinth and by simultaneous affections of the arteries of the eye muscles.

Perhaps Meniere's disease occurring in the apoplectic variety is most liable of being mistaken for encephalic apoplexy. But when we remember that the latter affection is common, while the former is rare, and find a diseased heart or atheromatous vessels with a hemiplegia, or our patient unconscious or in convulsions, we can with little difficulty rule out Meniere's disease.

Cerebellar affections often give us the same form of ataxia in the gait and vertigo, but we rarely have the tinnitus and deafness and we usually do have optic atrophy, or hemianopsia, headache and paresis of the extremities, with mental impairment.

Syphilis rarely affects the labyrinth first, but generally secondarily, through a basilar meningitis. It is a question if ever we get the Meniere symptom through a primary affection of the bulbar nuclei, as formerly believed, in an analogous way to that in which the nuclei of the third, fourth and sixth cranial nerves are so often invaded by syphilis. (Demonstration of nuclei.)

Hysteria and neurasthenia can be easily differentiated by their history and present stigmata.

PROGNOSIS.

The prognosis varies according to the cause. When due to acute inflammation or when in the apoplectic form the prognosis is very good. Kennefick reports a case illustrating the apoplectic form completely cured. As to the duration of life in all forms the prognosis is good. The paroxysmal form, if treated early, may recover, but rarely completely. Some disturbance of equilibrium usually persists, especially so long as the deafness remains incomplete, and the tinnitus, of course, is permanent. The hearing, except in the curable cases, does not improve, and yet rarely is absolutely lost.

TREATMENT.

Charcot and Raymond have advocated the intermittent use of quinine ten to fifteen grains per day for fifteen days; then wait eight days and repeat for several months. Gowers likes the salicyl compounds

better. The Germans use both together with galvanization and faradism.

When due to some constitutional affection, the remedies must be directed to the diathesis, and the iodides and nitro-glycerin may be efficient. When there is evidence of cortical excitement, bromide is indicated, and in the debilitated, arsenic is often of service.

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Clinical Department.

MASSACHUSETTS GENERAL HOSPITAL.

(Concluded from No. 20, p. 493.)

REGULAR Clinical Meeting of the Medical Board, Friday, April 8, 1898, DR. C. B. PORTER in the chair.

DR. C. B. PORTER reported a case of

CARBUNCLE OF NECK.

Frank Brown, aged thirty-five years. Nine days ago, pimple appeared on back of patient's neck. This was poulticed three days without relief, then other pimples appeared about original one, while swelling and redness of neck increased.

Poultices continued till yesterday, when patient came to out-patient department for first time. Pain not extreme. Sleep has been disturbed for past nine nights from inability to get head into comfortable position. Appetite has been good — thinks he has had no fever.

Looks tired but not very ill. Back of neck much swollen so that neck in profile protrudes instead of receding. Just below hair is an area four inches broad transversely and two inches longitudinally, where the skin has sloughed in places. This is reddened, and pus can be expressed by gentle pressure from several small openings. Peroxide syringing followed by sterile water. Corrosive poultice 1–1,500.

February 4th. Temperature last night 104°, but good night, waking occasionally from pain. Slight extension toward left ear.

February 6th. Much more pus discharging. Transverse incision three inches long with scissors through centre of carbuncle. Poultice.

February 7th. One ounce of pus expressed this morning. Large amount of sloughing material cut away. Red surfaces beginning to show. Temperature still up at night.

February 9th. Operation by Dr. C. B. Porter, under Schleich Mixture. Semicircular incision with knife below carbuncle, at sufficient distance to include all sloughing tissue. Similar incision above. Thorough curettage of walls and base of area thus excavated about four inches in diameter. Wound cleansed with peroxide and again curetted; bleeding controlled by pressure; wound packed firmly with iodoform gauze; dry dressing.

February 10th. Packing changed; no extension.

February 12th. Few superficial sloughs trimmed off each day; temperature normal; patient has no pain.

February 16th. Clean granulating surface; edges pulled together with adhesive plaster; no subjective symptoms.

February 19th. Granulating surface growing smaller under strapping.

February 23d. Healthy granulating spot three by two inches ready for skin graft.

February 24th. Thiersch grafts from upper arm; Thomas collar.

March 2d. Dressing taken down; grafts adherent; surface well covered.

March 7th. Thiersch graft for remaining granulating surface.

March 11th. Only few grafts taken.

March 19th. Not much progress.

March 27th. In a stationary condition.

April 4th. Skin closing in steadily.

April 6th. Three very small granulating spots, everything else healed. Discharged relieved.

ADENO-CARCINOMA OF RECTUM.

DR. A. T. CABOT showed a specimen of adeno-carcinoma of the rectum. It was a cauliflower-like growth, as large as a small fist, with a rather narrow pedicle, and grew from the anterior rectal wall. The rectum was exposed by Kraske's method, the lower portion of the sacrum being removed, and the bowel was opened by a longitudinal incision in its posterior wall. The tumor was drawn out through this posterior opening, and its pedicle with the neighboring portion of the rectal wall was sewn through and through with a cobbler's stitch before the growth was cut off. In this way the rectal wall was closed and there was no hemorrhage. The tumor was situated over that part of the rectum covered by peritoneum. The method of stitching brought the peritoneal surfaces on the wall of the bowel snugly together and insured a satisfactory closure of the peritoneum by adhesion. The subsequent history of this patient was thoroughly satisfactory, convalescence being uninterrupted.

Dr. Cabot said that this was the third case in which he had removed a polypoid growth in this manner, always with satisfactory result. He preferred, when the operation involved the peritoneum, to leave the posterior incision open to prevent any fecal accumulation in the bowel while the wound in its wall was healing. This opening is readily closed later.

Dr. Cabot also showed the calculi from a case of recurrence of stone in the bladder which illustrated the fact that when stone in the bladder is constantly recurring after thoroughly done litholapaxies, one may pretty safely conclude that there must be some cause which is constantly acting to lead to the re-formation of stone. This patient was an old physician who had been operated upon in this hospital twice before by litholapaxy. His history was a curious one in that he used the catheter from the time he was twenty-five. During the Seven Days' Battle before Richmond and the long marches at that time he had to hold his water for a very long time, and when he finally tried to pass it he could not do so, and required the use of a catheter. The catheter was awkwardly passed, a good deal of