other post-typhoidal bone lesions, we may conclude that an osteomyelitis or possibly periostitis of the vertebrae is present in some of the cases which have been supposed to belong in the neurotic class of typhoid spines.

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IDIOPATHIC PNEUMOHEMATOTHORAX, WITH RECOVERY AFTER ASPIRATION.¹

BY ELISHA S. BOLAND, M.D., SOUTH BOSTON.

Mr. T. is thirty-four years of age, married. Born in Maine. Never seriously sick, except some eight years ago, when he was confined to the house two or three weeks with the "grip." During early manhood he followed the sea, and at this work gained the summit of his weight, 170 pounds; present weight about 150 pounds. After he gave up going to sea he worked as a marble cutter for some time, but gave this up by the advice of his physician, as there was some premonition of lung trouble. Of late years he has been at work in a grocery and provision store, meat cutting, etc. Sometimes has felt pain in right side when he had to shoulder or carry a heavy quarter of beef. He is erect, spare, active and strong, of temperate habits, and takes good care of himself. Family history is negative as to phthisis. Father alive and well at sixty-four; mother died at thirty-five; cause of mother's death not known. He was in his usual health and did his work on July 20, 1899. That evening, while sitting near an open window—it being very warm—he felt some pain about the waist on the right side. After this he remembers he got up, stretched himself vigorously and went to bed, where he slept a few hours. When, during the night, he awoke he felt very severe pain in the right chest in front, and had "a feeling of wind escaping there," and found motion of any kind made it worse, and felt weak and was feverish and short of breath, and suffered much until morning.

When I found him at 8.30, July 21st, he was lying on his left side, and could not sit up or turn without great pain and dyspnea. Pulse 108, temperature 102°, respiration 28 and shallow. There was a pale, cyanotic tint in the face. Most free from pain when lying quiet in bed, and found the changes of position needed for a physical examination very severe. Pain most severe over the right chest, a little below and rather internal to the nipple. In this area could be heard a peculiar amphoric sound to be detected nowhere else in the chest. Over the right apex and thence down about two inches below the clavicle a modified respiratory murmur could be heard, and in the corresponding area in the axilla and back also. Over the entire lower part of the right chest, front, side and back no respiratory sounds could be heard; no fremitus nor tubal breathing. Percussion gave a tympanitic note over the area. The physical signs were so marked that, though I had never seen a case of pneu-

mothorax before, I had no doubt of the diagnosis here. The dominant symptoms being pain and dyspnea on motion, he was given small doses of morphine and antifebrin and kept in bed, with mild counterirritants over the affected area.

The next day he was somewhat easier as to pain, and pulse and temperature were both a little lower. On getting him into an erect position, however, it was evident that some effusion was accumulating in the lower part of the air-filled chest cavity. He was less markedly cyanotic and when quiet in bed he was so easy that it was hard to get him and his wife to realize the gravity of his condition and my urgent request for counsel was only reluctantly acceded to. As he was feeling even easier the next day when Dr. Vickery was kind enough to call and see him in consultation, the welcome we got was not effusive. Not wishing to bias Dr. Vickery's mind I told him nothing of what I had found; in fact, unintentionally misled him by telling him the left side was at fault. The doctor, however, very soon sized the case up, as his notes will show, and, in fact, it was hard at this stage not to be struck by the pronounced pathological conditions present,—the effusion having increased in amount and, owing to the large air chamber above it, shifted its level with every change made in the patient's position. (We speak of the liquid as an effusion here, as at this time neither of us believed it was other than the usual pleuritic fluid.) Some tiresome cough having come with the development of pressure from the fluid a sedative mixture was advised, as also the continued use of the rubefacients. As the pain was less sharp since the fluid came and the dyspnea no worse, the patient was allowed to sit up and, as it was warm, to go out in a limited way. He was beginning to eat and his pulse and temperature did not go up, nor were there any rigors. At Dr. Vickery's suggestion, aspiration was delayed in the hope of absorption. However, at the end of twenty-two days, as his general condition did not improve and there was no evidence of the fluid receding, it was thought best to aspirate. The largest needle of the aspirator, after being boiled, was introduced in the posterior axillary line between the seventh and eighth rib, and held, after penetrating the chest wall, approximately parallel with the diaphragmatic floor. As soon as the vacuum was connected I was dismayed to see a stream of dark red blood pour into the bottle, where only serum or, at most, pus was expected. Visions of anomalous venous channels flashed through my mind, and I heartily wished I had continued to temporize, but I felt I was in for it, and had better make the best of it, as I could not be held responsible for anomalies. The large needle caused great pain, and after about thirty-four ounces had been withdrawn and the flow was becoming intermittent, the needle was withdrawn and the puncture sealed up aseptically with sterile cotton and collodion. No air was withdrawn and after the immediate pain of the operation was over the patient felt easier, and in a day or two was out and about again. The line of flatness was reduced by this aspiration about two and one-half inches. At the end of fifteen days the effusion had reaccumulated and the line of flatness was as high as ever. The resonant air layer seemed practically unchanged—possibly a little less. A second aspiration was done with the large needle in the seventh interspace, but a little further posteri-

¹ Read at the meeting of the Boston Society for Medical Improvement, December 18, 1899.

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TABLE VI. (Continued.)

No.	Sex. Age.	Injury.	Treatment.	Time Spent in Hospital.	Time Elapsed Since Operation.	Present Condition.
5	Male. 10.	<i>Humeralus</i> .—Compound left, low down.	Wired. Operator, H. H. A. Beach.		10 months.	Left humerus, some shortening. Flexion limited about one-half. Extension normal. Greenstick deformity. Slight atrophy of forearm. Slight atrophy of upper arm. Not as good as before accident.
6	Male. 36.	<i>Forearm</i> .—Ununited ulna, 5 months; 3 inches below olecranon.	Wired. Eight weeks in splint. Operator, H. H. A. Beach.	4 weeks.	1 year.	Not as good as before accident. Cannot turn wrist as before. Tired quickly.
7	Female. 40.	<i>Femur</i> .—United 15 months; anterior and exterior swing; 3 inches short, right.	Wired. Twelve weeks +. Operator, J. C. Warren.	3 months.	5 years, 11 months.	Not as good as before accident. Knee is stiff and painful. Leg is $1\frac{1}{2}$ inches shorter.
8	Male. 36.	<i>Femur</i> .—Wired. Ununited.	Wired. Thirteen weeks. Operator, J. W. Elliot.		1 year, 6 months.	Not as good as before accident. Stiff knee and weak. Foot inverted. Right calf, $\frac{1}{2}$ inch atrophy. Knee flexion to right angle.
9	Male. 30.	<i>Femur</i> .—Middle. Ununited and deformity, 3 months; $\frac{3}{4}$ inch shortening. Knee feels stiff.	Wired. Operator, C. B. Porter.		1 year, 11 months.	Not as good as before accident. Stiff knee. Not as strong. Slight limp. Right $1\frac{1}{2}$ inches shortening. No deformity. Slight limitation of flexion.
10	Male. 25.	<i>Femur</i> .—Left. Compound. Lower third splintered.	Wired. Operator, C. L. Seudder.	6 weeks.	3 years, 11 months.	No limp. Left $1\frac{1}{2}$ inch shorter. Left thigh, $1\frac{1}{2}$ inch atrophy. Left calf, $\frac{1}{2}$ inch atrophy. Very slight limitation of flexion in left knee. Slight hyperextension in left knee. Lowering of left ankle arch. Went to work too soon.
11	Male. 48.	<i>Femur</i> .—Supracondylar fracture.	Wired.	6 weeks.	4 years, 6 months.	Perfect.
12	Male. 53.	<i>Legs</i> .—Both compound. Right compound comminuted, oblique 5 inches above ankle. Left compound 5 inches above ankle. Kicked.	Wired. Right, when 12 days old. Left, when 1 year old.		Right, 1 year, 8 months. Left, 7 months.	Right, anterior and posterior deformity; solid. Not as strong. Flexion limited one-half. Left, slight motion. Uses crutches. Splints on left leg.
13	Male. 65.	Compound comminuted of both bones. Kicked $3\frac{1}{2}$ inches above joint.	Wired. Three months.	9 weeks.	11 months.	Not as good as before accident. Bone (8 pieces) out. Local pain and swelling of leg. Two-inch increase in size of calf. Gets about with difficulty.
14	Male. 50.	<i>Leg</i> .—Ununited, 6 months.	Wired Three-quarters inch shortening. Ten months in cast. Operator, S. J. Mixer.	4 weeks.	1 year, 4 months.	Leg perfect. Foot troubles much.
15	Male. 56.	<i>Leg</i> .—Both bones $5\frac{1}{2}$ inches from tuberosity of tibia; backward bowing of tibia.	Nine weeks. Operator, M. H. Richardson.	2 weeks.	2 years.	Not as well as before accident. Gathers and breaks down.
16	Female. 18.	Compound of both bones 4 inches above malleolus.	Operator, C. B. Porter.		4 years, 11 months.	Some deformity. Pain. Swelling.

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only. This time the patient sat erect and the fluid was of the same kind as before—blood, but dark blood—and it flowed freely until about thirty-nine ounces had been withdrawn. As this aspiration was nearing the end, the patient experienced great pain and became conscious of a fresh invasion of the pleural space with air. From the position of my needle, below the level of the fluid, I am sure I did not puncture the lung, nor was any air aspirated from the pleural cavity. I finished the operation at once, as the patient was near fainting, occluded the needle puncture, and on percussion confirmed what he had felt, that though the bulk of fluid had been withdrawn, the pleural cavity was as full of air as on the first examination; about seventy-three ounces in all was withdrawn. The patient soon rallied and the air seemed to give him less pain and discomfort than at first. There was also some temporary recurrence of the effused blood, but no further aspiration was deemed necessary, as the general condition of the man improved rapidly, and tonics, open-air life and extra nourishment seemed to be all that was needed further.

Three or four weeks after the last aspiration he

went on a vacation to Nova Scotia, and a few weeks on a farm seemed to advance him very much. When he returned about October 1st, I found the lung had expanded and advanced almost to its original limits. He had gained from 135 pounds after the last aspiration, to 146 pounds, and felt so well he resumed his old position after an absence in all of eleven weeks. There are still some pains in the chest on making certain motions, but these are not made worse by his working up to the present time. I believe he has fully recovered.

The aspirated blood was liquid and remained free from coagulation after exposure to the air. It was about as dark as menstrual blood; was free from odor and remained homogeneous after standing in column. Under the microscope it was neither more nor less than blood. As far as I could estimate there was the usual ratio of red and white corpuscles. I regret that no exact blood count and no bacteriological tests were made. That there was some ordinary pleuritic fluid mixed with it I can neither affirm nor deny, but if present, it was in relatively small amount.

At the risk of being tedious I have gone into these details because of the rarity of this condition, as a

primary affection. Dr. Herbert B. Whitney, in the "Twentieth Century Practice," says it never occurs as a primary condition. So, too, says Dr. Frank Donaldson in "Pepper's System of Medicine," 1885.

The few writers whom I have been able to look up agree in stating it is always subsequent to trauma, aneurism, tuberculosis or other gross disease in contiguous structures. They say further, and truly no doubt, that the prognosis is always bad. Pagenstecher has demonstrated that the pleural cavity has the power of preventing coagulation of blood injected aseptically therein, that it is readily absorbed therefrom and that its presence therein does not excite pleurisy. This case bears him out.

I have called this idiopathic pneumohemothorax, and to all appearances it was so in that there was no objective or subjective evidence of pre-existing trouble. How then can we explain the sudden ingress of air and more gradually of blood afterward into the pleural cavity? Possibly at some time before he had had an adhesive pleurisy with an unusual vascular development in the adventitious tissue. His stretching that evening might have torn away some bronchial terminal, together with some small veins, and so opened the way for both air and blood at the point designated when the amphoric sounds were heard, a hypothesis similar to that accepted to explain non-traumatic subdural hemorrhages, barring the air element in the case of the pleura. A certain writer whom I cannot name has said that air in the terminal pulmonary vesicles is, aside from tubercular bacilli, practically sterile. If this is correct it would explain the non-infection of the pleural cavity and contents by the large volume of air with which it was twice distended. I believe he would have recovered without aspiration, though possibly it may have hastened the recovery. In any clinically similar case, where sepsis is not manifest, aspiration ought to be tried before resorting to any more radical measure, for some empyemas recover after aspiration. This case suggests: (1) We can have (practically) a primary pneumohemothorax; (2) that without diagnostic aspiration we cannot be sure of the nature of any pleural effusion; (3) that aspiration may precipitate an influx of air into the pleural cavity even if the lung is not touched by the needle; (4) that the pleural cavity can unaided take care of aseptic blood as well as of air.

Clinical Department.

BRADYCARDIA, WITH INTERMITTENT ALBUMINURIA.¹

BY ANDREW H. WHITRIDGE, M.D., BALTIMORE, MD.

PATIENT came to the dispensary complaining of shortness of breath. Family history good; no tuberculosis, Bright's disease, or heart trouble. Personal history: Had measles, whooping-cough in youth, typhoid fever in fall of 1894; no complications. Had one attack of rheumatism; both knees were swollen, inflamed, and painful. He uses tobacco, smokes and chews. Drinks whiskey to excess, using half-pint daily, often getting on a spree. Had gonorrhea six times; denies lues. Was operated upon three times; in the first and in second operation ether was used.

¹ From the Dispensary of Johns Hopkins Hospital.

No albumin was found in urine before or after operation. Heart normal; pulse normal, 70 to the minute. Last operation, November 23, 1898, was for lipoma of the neck in the cervical region on the right side; cocaine was used. Incision five inches long between the sternocleidoid and trapezius muscles. The vagus was not exposed during the operation. The urine on admission, November 23, 1899, had albumin and fatty casts in it. Four days after the last operation no casts or albumin were found in the urine. Pulse then 70 to the minute. This is the last record of his pulse and urine until his admission to the dispensary, February 11, 1900.

Patient passes large quantities of urine during the day and is obliged to urinate frequently during the night, when he passes large quantities of urine. Has noticed occasionally in the past two months some puffiness under the eyes in the morning; has no nocturnal cramps in muscles of the legs, no swelling of the legs.

Present illness.—Three months ago patient noticed while going upstairs some shortness of breath; no dizziness or palpitation, and never lost consciousness. Accidentally at this time patient counted his pulse, and noticed for the first time it was 32 to the minute at the radial. Since then, two months ago, he has frequently counted his pulse and never noticed it above 32. He has no paralysis of the muscles and feels as strong and well as ever, with the exception of slight shortness of breath on exertion.

Physical examination.—Patient is an exceedingly intelligent man, not drowsy or in any way stupid. He is sixty years of age, of large frame and well developed. Skin anemic, but not waxy in appearance. Some puffiness under the eyes. Eyes react readily to light and accommodation. Pupils equal. Pulse good volume, increased tension, regular in force and rhythm, not compressible; at the radial 32 per minute. Heart's action at the apex is also 32 per minute. The pulse is therefore synchronous with the heart's action. Lungs negative on auscultation and percussion. Heart point of maximum impulse not palpable or visible, but determined by auscultation to be in the fifth interspace, 11 centimetres in the mid-sternal line within nipple line. Here both sounds are audible, first followed by soft systolic murmur, transmitted outward into the axilla. This murmur is not heard over the body of the heart. Aortic and pulmonic area is clear; no murmurs; both sounds well heard. Area relative to cardiac dulness begins at the upper border of the third rib and extends four centimetres to the right of the mid-sternal line. Spleen not palpable. Liver edge can just be felt below costal margin. Pulse 32 to the minute. Vessel wall distinctly thickened and can be rolled on the finger. Urine when first examined was voided just before patient had retired on the night previous to admission to dispensary. Was of a dark amber color, cloudy, and had a heavy white granular sediment. By Heller's test the most pronounced ring was observed; also albumin was demonstrated. Centrifugalizing specimen of urine, hyaline and coarsely granular casts were found; no sugar.

Two days after this first admission, February 13, 1900, patient returned. Pulse 32 to the minute, regular; heart's action regular, 32 at the apex. Specimen of urine voided at 7 A.M., just as he got up out of bed, was light amber color, clear; specific gravity,