slow in their course, give little pain, and are consistent with several years' life with comparatively little discomfort. The other conditions which are a bar to the operation are—*a.* Ulceration of the tumour and of the covering integument; *b.* Adhesion to the pectoral muscle; *c.* Infiltration of the mammary gland with cancerous matter as distinguished from a circumscribed tumour in its substance; *d.* A chain of indurated glands in the axilla; *e.* Any induration of the glands above the clavicle; *f.* Brawny infiltration of the skin over the affected breast; *g.* The existence of scirrhus in both breasts, or in any other organ besides one breast.

In an otherwise healthy person below fifty-five years of age, I do not consider a retracted nipple, a pucker or dimple in the skin, or one enlarged movable gland in the axilla, severally, objections to the operation. Once operative interference is decided upon, which is the best plan? Clearly the knife, not the elastic ligature or caustics. By the knife the surgeon can most safely ensure the removal of the whole disease; anaesthetics render its use painless, and the healing of the wound in the vast majority of cases is rapid, and unattended with constitutional disturbance or local trouble.

I have only lost two patients after the operation; one from secondary hæmorrhage, the other from embolism. In the former case, which occurred ten years ago, I had removed a large mass of axillary glands under circumstances which, with my present experience, would preclude me from operating. In the second fatal case, everything proceeded admirably to the thirteenth day, extreme precautions having been taken to ensure safety. The lady having gone off into a comfortable sleep, woke from it muttering unintelligible words, and sank in thirty-six hours with symptoms of embolism, verified on *post mortem* examination by my friend and colleague, Dr. Sawyer.

A few words as to the operation and its after-treatment. Commencing at the sternum, I direct the incisions straight across the chest through the fascia covering the pectoral muscle, which I invariably dissect clean. The mamma, grasped in the hand, is forcibly raised, the handle of the knife being freely used to separate its loose connections; the point or edge of the instrument is only employed to give a light touch to any bond of union which resists a goodly amount of traction. By this means very little blood is lost. It is now many years since I tied or twisted a vessel in an operation of this kind. The surface of the wound is lightly brushed with styptic colloid, and narrow strips of lint soaked in the same agent are used to close the wound after the edges have been very accurately adjusted by points of metallic sutures, at a distance of about three-quarters of an inch from each other. A drainage-tube is placed in the outer angle of the wound, and over it pads of picked oakum in common muslin bags. A nicely compressing bandage surrounds the chest, and binds the arm to the side with the hand across the chest. The dressing is not troubled for a week, when, as a rule, the greater part of the wound is healed. The operation, thus simplified according to the first principles of plastic surgery, is attended with singularly little pain. Yet it should never be undertaken unless the circumstances are favourable. To operate under desperate conditions is only to cause unnecessary pain, and to bring discredit on surgery, which admits of being so practised as to win esteem for the higher qualities of scientific judgment and humane prudence, quite as much as for captivating boldness and manipulative skill.

A very few words as to operations for recurring scirrhus. If the secondary growth be in or near the cicatrix, circumscribed, and unadherent to the parts below, the constitution unimpaired, and, so far as can be judged by careful examination, no malignant deposit elsewhere, the removal of the second growth is justifiable. I operated under such circumstances seven years ago, and the lady continues in perfect health.

THE SUPRARENAL CAPSULES AND LYMPHATIC GROWTHS.

By BYROM BRAMWELL, M.B.,

Physician and Pathologist to the Newcastle-upon-Tyne Infirmary; Joint-Lecturer on Clinical Medicine and Pathology in the University of Durham College of Medicine.

THE passage from my case of lymphosarcoma which Dr. Pye-Smith criticises in the JOURNAL of January 27th was written nearly three years ago; and I frankly confess that at that time I was not acquainted with the facts brought forward by Drs. Wilks and Greenhow in proof of the proposition that Addison's disease is associated with one, and only one, morbid condition of the suprarenal capsules—*i. e.*, the quasi-tubercular change. The evidence adduced by these authorities is to my mind conclusive as regards the nature of the lesion. Dr. Pye-Smith

says, "It is *only* the peculiar quasi-tubercular change in *both* organs which produces the symptoms of Addison's disease". (The italics are my own.)

The case detailed below, in which there was discoloration of the skin and in which disease of one capsule only was observed, seems to throw a doubt on the lesion being of necessity bilateral; and in this I am quite in accord with Dr. Greenhow, who says, in those same Croonian Lectures to which Dr. Pye-Smith has referred me (p. 66), "in Addison's disease, on the contrary, in some of the very few cases in which one capsule only has been found diseased, the symptoms have nevertheless run a course in all respects resembling the usual course of the disease when both capsules are involved." Dr. Greenhow then gives (page 67) the following particulars of two cases of this nature, one of which was, curiously enough, diagnosed by Dr. Pye-Smith himself. "In a girl aged 11, whose case was reported by Dr. Guttman in 1870 and who had been under observation during five months, the left suprarenal capsule only was found to be diseased, the right one being still perfectly intact; but nevertheless the constitutional symptoms had been quite characteristic, and the discoloration of the skin very fully developed. A more striking case of the same class, which had been under observation for some years, was published by Dr. Murchison in the *Pathological Transactions* for 1866. In 1864, the patient, a man aged 27, was in the Royal Infirmary of Edinburgh, where his case was diagnosed by Drs. Dyce Duckworth and Pye-Smith as a typical example of Addison's disease. He survived until April 1866, having been occasionally able to work at his trade during the periods of remission of his symptoms. At the autopsy, only one of the suprarenal capsules was found to be diseased; the diseased organ exhibiting all the characteristic appearances of the capsules in Addison's disease, whilst the other had remained quite healthy."

The supposed relationship between the suprarenal capsules and the lymphatic glandular system to which I refer is still taught in some of our best physiological text-books. In the last edition of Kirkes's *Physiology*, published in October 1876, under the head of Vascular Glands or Glands without Ducts, I find the following passage (p. 422).

"There appears, however, to be a modification of the process of secretion in which certain materials are abstracted from the blood, undergo some change, and are added to the lymph or restored to the blood without being previously discharged from the secreting organ or made use of for any secondary purpose. The bodies in which this modified form of secretion takes place are usually described as vascular glands, or glands without ducts, and include the spleen, the thymus and thyroid glands, the *suprarenal capsules*, and, according to Cesterlen and Ecker and Gull, the pineal gland and pituitary body, possibly also the tonsils.

"The solitary and agminated glands (Peyer's) of the intestine and lymph-glands in general also closely resemble them; indeed, both in structure and function the vascular glands bear a close relation on the one hand to the true secreting glands, on the other to the lymphatic glands." (No italics in the original.)

And again, page 427: "Although the function of all the vascular glands may be similar, in so far as they may all alike serve for the elaboration and maintenance of the blood, yet each of them probably discharges a peculiar office, in relation either to the whole economy or to that of some other organ. Respecting the special office of the thyroid gland, nothing reasonable can be suggested; nor is there any certain evidence concerning that of the suprarenal capsules."

Even granting that the function of the suprarenal capsules is unknown, the fact that they are so well endowed with nervous elements is a strong reason for believing them to be more than the inert bodies Dr. Pye-Smith supposes.

CASE. *Intrathoracic Tumour simulating Aneurism; Discoloration of the Skin: Right-sided Hemiplegia and Partial Aphasia; Pericarditis; Recovery from Hemiplegia; Relapse of Hemiplegia; Death; Pericarditis; Sacculated Dilatation of the upper part of the Pericardium; Tumour involving the Root of the Left Lung; Large Cyst in the Left Frontal Lobe; Recent Embolism in Left Middle Cerebral Artery; Left Suprarenal Capsule twice the natural Size and transformed into a Putty-like Mass.*—W. A., a pitman, aged 45, was admitted to the Newcastle Infirmary under my care on October 1st, 1874, suffering from right-sided hemiplegia, cough, emaciation, and debility.

The previous history was ascertained from his wife to be as follows. At the age of 22, he had an attack of "inflammation of the chest". With this exception, he enjoyed excellent health until November 1873, when he caught cold. His eyes and nose began to run, and continued to do so for some time. In April 1874, he began to cough and lose flesh. In August, he commenced to spit; the sputa were white and frothy, never blood-tinged. He rapidly lost flesh; complained occasionally of pain in the chest and of palpitation. He never seemed

very short of breath. Six weeks before his admission, a marked change took place in his mental condition; he became very irritable and obstinate; slept badly; would sit silent for hours together; when spoken to, he answered in monosyllables. A week before his admission, he partly lost the use of his right hand. A few days afterwards, the leg became affected. He was at work, off and on, as a pitman, until a fortnight before admission to hospital.

The family history was good. None of his near relatives had died of cancer or consumption.

Condition on Admission.—The skin was of a dirty brown colour. His wife said it was much darker than it used to be. He was very thin and emaciated. He was unable to give any account of himself or of his complaints. He said "yes", "no", "nicely", or some short word, in answer to all questions. He seemed to understand fairly well what was said to him. There was partial loss of power in the right arm and leg. Sensibility was apparently natural. The muscles of the right hand and arm were not more wasted than those of the body generally. Muscular irritability was very marked. His sight seemed good. The pupils were equal and contracted. (At this time, I was not in the habit of using the ophthalmoscope in all cases, for I had not then realised the truth of Dr. Hughlings Jackson's observation that optic neuritis is often present with perfect vision. I regret, therefore, that I cannot state what was the condition of the optic discs). The other special senses seemed natural. The tongue was protruded in the middle line. He was very irritable and obstinate, slept badly, and often ground his teeth. The anterior wall of the left chest was unduly prominent from the second to the sixth rib. It measured, at the level of the nipple, half an inch more than the right, being eighteen inches. Pulsation could be seen and felt over the prominent area. The pulsation seemed to come to a focus at a spot an inch and a half above and slightly outside the left nipple. It was apparently distinct from the cardiac pulsation and quite as forcible. On percussion, there was absolute dullness over the left chest; anteriorly, from the clavicle to the sixth rib; laterally, in the axillary region; posteriorly, in the suprascapular, upper half of the scapular, and upper half of the interscapular region on the left side. Pain was complained of on percussion about the left nipple. On the right side, there was dullness over an area an inch square below the sterno-clavicular articulation. This dullness was directly continuous on its inner side with the dullness on the left side. The cardiac dullness could not be exactly defined by percussion, owing to the surrounding dullness. The apex-beat could be seen and felt between the fifth and sixth ribs an inch and a half below the nipple. On auscultation, the respiratory murmur was scarcely perceptible over any part of the left chest; it was entirely absent from the second to the sixth ribs anteriorly. Over the rest of the dull area, faint bronchial breathing was heard. Vocal resonance was greatly diminished all over the left chest; absent over the dull area. At the aortic cartilage, the first sound was replaced by a soft bellows-murmur. The second sound was well marked. Over the pulmonary area, the systolic murmur was heard, being fainter than over the aorta. The second sound was louder than the aortic. At the apex, the sounds had a dull thudding character. At the point of pulsation, an inch and a half above the left nipple, both cardiac sounds were very distinct, but free from murmur. The radial pulse numbered 92, was weak, regular, equal in the two wrists. The respirations numbered 20. The temperature was normal. There was no excess of the white blood-corpuscles. The red corpuscles did not form *rouleaux*, but adhered wherever they came into contact. The urine contained an excess of phosphates. The other organs were normal.

The subsequent progress of the case was as follows.

October 17th. His mental condition was much worse. The paralysis of the arm and leg was now complete. There was also distinct loss of power in the muscles of the right side of the face. The heart was situated more to the left side. The apex was now an inch outside the left nipple. The dullness over the upper half of the left lung was more absolute and extensive.

October 19th. A well-marked pericardial friction-murmur was heard over the greater part of the left chest anteriorly; it was very abruptly defined. The cardiac sounds were heard, free from murmur, in the axillary region.

October 21st. The left chest now measured an inch and a half more than the right.

October 28th. He was very much better, and was gaining power in the right arm and leg. The friction-sound was now almost gone.

November 4th. He could move the arm and leg freely.

November 5th. He had again lost all power in the right arm and leg. His face was very much congested; breathing very difficult. He had been several times severely purged without medicine.

November 6th. He was again severely purged. He died at 9.30 P.M.

Temperature.—The temperature never exceeded 100 deg. Fahr. until November 5th; on that day, it reached 101 deg.; and on November 6th, 102 deg.

The *post mortem* examination was made eighteen hours after death. The body was much emaciated. Rigor mortis was well marked. The left pupil was dilated; the right contracted. Both lungs were firmly adherent throughout. The left was scarcely visible on opening the chest, its anterior edge being much retracted. Between the sternum and subjacent parts, there was a quantity of recent lymph. The *pericardium* was adherent over the greater part of the heart. Along the right border and at the apex, it was free. The adhesions were recent and thick. Around the great vessels, the pericardium was dilated and formed a sort of cyst, which projected to the left side. The sac was about the size of an orange, and was filled with pinkish semifluid matter. The heart weighed twelve ounces. Its valves were healthy. The outer coat of the aorta and pulmonary artery, where surrounded by the cyst, were roughened and coated with lymph. *Around the root of the left lung*, and extending into the substance of the organ, was a growth of brain-like consistency and consisting of numerous nodules. The growth radiated into the lung-substance in all directions, and seemed to follow the course of the bronchi, the walls of which were much thickened. The terminal portions of the aortic arch and pulmonary artery were surrounded by the growth, which passed over to the right side. On section, the nodules were of a pink colour; one was caseous. The left lung was of a jet-black colour. The black fluid which escaped did not stain the fingers. After the black fluid had been washed out, the lung-substance was tough and non-crepitant, resembling the compressed lung from a case of copious pleuritic effusion. The right lung was congested, otherwise healthy. There were no tubercles. The *mesenteric glands* were much enlarged, of a dark purple colour, and studded here and there with white nodules. A chain of enlarged glands surrounded the abdominal aorta. In the lower part of the ileum, there was an oval nodule of fully the size of a large walnut; it formed a well-defined tumour; its free surface was of a yellow colour, evidently stained by faeces. Several Peyer's patches were enlarged, but none were ulcerated. The left suprarenal capsule was about twice the natural size and transformed into a cheesy putty-like mass. The right suprarenal capsule was normal. The surface of the brain was considerably congested. An abscess of the size of an egg was situated in the middle of the left frontal lobe. The white matter was extensively destroyed. At one point corresponding to the middle of the superior frontal convolution, the grey matter was invaded and partly destroyed. The abscess contained a grumous yellow liquid of the consistency of thin cream; it was lined by a ragged membrane. Both lateral ventricles contained an excess of fluid. A clot was found in the left middle cerebral artery just at its commencement.

On *microscopic examination*, the intrathoracic growth was found to consist of—1. Cells, round and angular in form, about the size of white blood-corpuscles, and containing numerous highly refractive granules; 2. Free nuclei and granules; 3. Fibrous tissue; many of the fibres were nucleated. The pericardium, the cerebral abscess, and the lymphatic glands, contained the same corpuscular elements as the tumour.

REMARKS.—It may, perhaps, be objected, that the discoloration of the skin was due to some other cause than the lesion of the capsule; in short, that it was not the bronzing of Addison's disease at all. It must, however, be conceded that the condition of the capsule was such as not unfrequently results from the "peculiar quasi-tubercular change which produces the symptoms of Addison's disease". It is an unfortunate fact that there is not in my case-book a more minute description of the discoloration, and I cannot at this distant period trust my memory to fill in details. I cannot, for instance, say whether the discoloration was more marked in the axillae and genitals than elsewhere. There certainly were no spots on the buccal mucous membrane. I do not make any mention of the constitutional symptoms, the anaemia, etc., which are characteristic of Addison's disease, the case being so very complicated. The emaciation is fully accounted for by the complication.

The case was interesting in its other diagnostic features. Dr. G. W. Balfour, in his admirable *Clinical Lectures on Diseases of the Heart* (page 340), says: "There is only one phenomenon positively characteristic of thoracic aneurism, and that is the existence in some part of the thorax of a pulsating tumour other than the heart, which beats isochronously with the heart and at least as forcibly, and which at each pulsation expands in every direction." All these conditions were present in this case, and yet there was no aneurism, the pulsating tumour consisting of a lateral expansion of the pericardium overlying a tumour of the root of the lung. I am not aware that such a condition has been described before. It closely resembled a limited empyema

in contact with the heart, "in which", says Dr. Balfour, "the pulsation, though expansile from being communicated through fluid, is less forcible than that of the heart." In this particular case, the pulsation was fully as forcible as the apex-beat; but the apex-pulsation was feeble. Dr. Balfour's proposition is not, therefore, invalidated, provided that the cardiac pulsation is of normal force.

In spite of the great similarity to aneurism, the diagnosis of intrathoracic tumour was arrived at for the following reasons.

1. *The extensive nature of the dulness.* An aneurism sufficiently large to cause such dulness would have produced more active pressure-symptoms—notably pain. There had been slight pain in this case at the commencement of the illness.

2. *The great emaciation.* There was no obstruction of the oesophagus, no prolonged suffering—conditions which cause emaciation in aneurism.

3. *The associated paralysis and its very gradual commencement* favoured the idea of a secondary deposit in the brain.

4. *The position of the pulsating tumour.* It is rare for an aneurism to point an inch and a half above the left nipple.

I was aided, too, in the diagnosis, by the experience gained in the case published in the JOURNAL of January 6th, 1877. The first attack of paralysis was obviously caused by the cerebral abscess; the second by the embolism. The origin of the cerebral abscess is not quite clear. There was no purulent discharge from the ear, nose, or other portion of the skull. It may have been a secondary deposit in the brain which had softened and liquefied, or it may have been the result of a previous embolism. The former view is probably correct, because, first, only one embolism, and that a recent one, was found; second, the gradual way in which the lesion produced mental changes, then aphasia, then paralysis of the arm, then of the leg. The first attack of hemiplegia was probably due to pressure, and not to direct lesion. Had all the conducting fibres from the centres for the arm and leg been destroyed, it is difficult to suppose that the recovery could have been so rapid and complete. This view is quite in accord with the localisation of Ferrier and Broca. The fact that the temperature did not exceed 100 deg. during the attack of pericarditis, is perhaps worthy of remark. The large nodule in the lower part of the ileum was pathologically interesting. The enlargement of the mesenteric and postperitoneal glands in the neighbourhood of the capsules and of Peyer's patches is frequently seen in Addison's disease.

CASE OF POISONING BY A LARGE DOSE OF TINCTURE OF ACONITE: REMARKABLE SYMPTOMS: RECOVERY.

By L. HERBERT JONES, M.R.C.S., Harrow Road.

A GENTLEMAN, staying at my house on a visit, on the morning of January 16th, went down to my surgery at eleven o'clock, and there, mistaking a small bottle of tincture of aconite for one of succus limonis, drank off two ounces. A few minutes afterwards, I met him in the hall, and, to my hurried glance, he appeared strange. In answer to a passing question, he said he should not be back to luncheon, as he was going to call upon a friend two miles and a half off. I saw no more of him until he was admitted by the servant at 2.30; he went straight to his room, and, as he did not soon put in an appearance, I went up and found him in bed, and, by his appearance, thought he was under the influence of drink; happily, I was wrong in my conclusion. He was semidelirious, very flushed in the face, suffering intense dyspnoea, bathed in an icy-cold perspiration, with pupils widely dilated. I could at first get nothing out of him, but finally ascertained that he had walked to the friend's house, had partaken of a glass of wine and some biscuits, and, feeling faint, he returned home, walking. On his way, he felt "as if his legs would give way under him", and within about half a mile of my house he vomited freely. I ordered hot bricks to be put into the bed, gave him a strong glass of brandy-and-water, put extra blankets on, and ordered strong coffee to be got ready. The pulse was not perceptible at the wrist, and the heart-sounds could faintly be heard. At 3.30, violent vomiting came on; and, acting upon the dictates of nature, I gave him half a drachm of sulphate of zinc, which had the effect of bringing away a large quantity of dark grumous fluid. He at this time casually mentioned that he hoped he had not mistaken one bottle for another in the surgery. I knew he was fond of the succus limonis, and, in going down to my room, I found, to my horror, that he had mistaken one bottle for the other.—At 4 o'clock, the delirium still continued. There was great muscular prostration; no pulse at the wrist. Temperature 89 deg.—At 4.30, I gave him two ounces of castor-oil, which soon had the desired effect.

The pupils were widely dilated, but there was great dyspnoea, which almost suffocated him. I became somewhat alarmed. By applying mustard sinapisms to the calves of his legs, hot bricks to his feet, and rubbing him over with rough towels, and sedulously giving him brandy and water (six ounces to the half pint), he partially rallied.—At 5.30, tonic spasms occurred, lasting a considerable time. Temperature 84 deg.; pulse at wrist imperceptible. The hands, including the nails, were in appearance slate-blue. Hot coffee (strong) and brandy-and-water were given every half hour up to twelve.—At 12 o'clock, the heart-sounds were more distinctly heard. There were marked diplopia, and intense thirst. Temperature 89 deg. He had no power over the lower extremities. There were great tingling and numbness in the arms, and he said he felt inclined to sleep.

January 17th, 4 o'clock. I saw him again. The pulse was perceptible at the wrist; the dyspnoea was disappearing. He had great palpitation; temperature 95.4 deg. He took a boiled egg and a strong cup of coffee.—At 9 o'clock, he had had some refreshing sleep. He was quite conscious, and complained of seeing double; the pupils were widely dilated. He ate an egg and a little toast. I kept him in bed for two days, by which time he had quite recovered, with the exception of great muscular weakness and occasionally severe attacks of palpitation.

My first impression was that the drug I had was innocuous; but I had the positive assertion of the wholesale chemist who supplies me, that the drug was prepared according to the *British Pharmacopoeia*, from the root. My late lamented tutor, Dr. Fleming of Birmingham, ascribed great powers to aconite, and was often in the habit of remarking the lowering of the temperature of the body by aconite. Among recent writers, Kinger predicts a great future for aconite. I did not notice any vesicular rash, which, he says, sometimes occurs during the administration of this drug.

I think I am not wrong in stating, that this is the largest dose of the tincture that has been taken without causing death. Quoting from Taylor's *Medical Jurisprudence*, I find "considerable uncertainty appears in the operation of this poison under the form of tincture". Again, "a man recovered in three days after having taken upwards of ten drachms of the tincture". It is interesting to observe that the effect of this drug differs. It has been known to contract the pupil. In my case, the pupils remained widely dilated for nearly three days, showing that its power over the nervous system varies.

My apology for sending this interesting case is, that it may be of some use in a medico-legal point of view.

SURGICAL MEMORANDA.

ABSCCESS IN THE KNEE-JOINT.

TOWARDS the middle of last January, I saw, with Mr. Wigmore of Inverness Terrace, a married woman, 39 years of age, of a decidedly phlegmatic temperament, who had been confined to bed for some time past with rheumatic fever. All her joints had been attacked in turn, and the effusion in her left knee, though lingering for a time, had at last become absorbed under the administration of quinine and iron and the application of blisters. To this treatment, however, the right knee would not yield; it persistently increased in size.

When I first saw her, she was lying supine, with the right leg slightly flexed and abducted, the knee, well wrapped in flannel, being supported on the outer side by a pillow. The synovial membrane bulged up under the quadriceps extensor and on either side of the patella and its ligament. The slightest shake or movement gave rise to intense pain in the joint. The surrounding skin was red and hot. The pulse was extremely weak and frequent, and the appetite and power of sleep were well-nigh gone. Although she sweated profusely, she had had no shiverings. Next day, however, she had a severe rigor, and her physical condition was worse in every respect. Further temporising being out of the question, a free incision was made along the prominent and fluctuating swelling on the outer or dependent side of the joint. Several ounces of a thin and streaked synovia at once escaped, and with it a considerable quantity of pus. Then, by gentle pressure with the hands, the joint was as completely emptied as possible, and some tenax was loosely bound over the wound. Two days afterwards, when this dressing was removed, it was found that there had been no subsequent discharge, and that the edges of the incision were completely and soundly united. Moreover, all pain had left the joint, and anxiety and distress had given place to tranquillity and repose. The appetite returned, and with it the power of movement at the knee. The last report of Mr. Wigmore (February 18th) says: "The patient is now