frequently meet with cardiac *bruits* and modifications of rhythm and impulse in connexion with various forms of intrathoracic cancer. This should be borne in mind in obscure cases, where there may be any question as to the existence of aneurism. It has in several instances been found to mislead, when the real cause of signs of pressure has not been ascertained. I have not myself met with an instance in which the cancer was confined to the heart. A few years ago, however, Bricheteau published a very interesting case in which the heart alone was the seat of disease within the thorax, but associated with similar disease of the ovaries. The cardiac affection was not suspected during life; the patient, a girl aged 24, having been admitted with slight signs of pleuropneumonia, which subsided. When apparently going on well, the pulse suddenly rose to 156 or 160; and the sphygmographic tracing showed a series of curves, without any line of ascent. The heart's sounds continued normal, and the patient complained only of a feeling of weakness and oppression. She had no palpitation. On the morning of the last visit paid, she seemed better, and the pulse had fallen to 140. Two hours afterwards, when trying to reach a morsel of sugar from the stand by the bedside, she fell back and died. On opening the thorax, numerous pleuritic adhesions were discovered. The pericardium contained a little serum, and the heart rested in it perpendicularly. The left ventricle was of a yellow colour, and presented numerous irregularities of surface. Its muscular fibres were almost completely destroyed, and replaced by irregular yellowish masses, firm, and projecting from the surface. On scraping these masses, they yielded a yellowish cancerous juice. They extended into the posterior wall of the right ventricle, and into the right auricle, as well as into the inter-ventricular septum. In the interior of the left ventricle there were numerous smooth and round vegetations. The right ovary presented the appearance of a white mass of considerable weight and consistence. The microscope showed the cancerous nature of the masses, and a fatty state of that portion of the muscular structure of the heart which was not replaced by cancer. The other organs were healthy.

Dr. Sutton has favoured me with the details of a very rare case, in which the heart was the primary seat of intrathoracic cancer, but had become affected by the extension of disease through the parietes of the chest, from scirrhus of the mamma. A lady, fifty-three years of age, was suffering from a tumour in the left breast, which was considered by an eminent surgeon to be scirrhus. This tumour apparently ceased to grow; but the patient's health continued impaired, and by degrees her breathing became affected, and she complained of much breathlessness on exertion. On examining the chest, the lungs were found to be somewhat emphysematous; but there was no evidence of bronchitis, and the small amount of emphysema seemed quite inadequate to account for the breathlessness. The heart's action was regular, and there was no increase of the cardiac dulness. The first sound of the heart was very feeble, but unattended by any murmur. The lady gradually lost flesh, particularly of the extremities; she complained of pain about her chest; and the cardiac region became very tender on percussion. The shortness of breath increased, and frequent nausea and occasional vomiting supervened. The feeling of sickness increased, and became most distressing night and day. The respiration became much accelerated. Nothing relieved the nausea, except very temporarily; and the patient sank. After death, the tumour of the mamma proved to be scirrhus. It had penetrated through the intercostal muscle by a narrow pedicle, and involved the pericardium, forming at the root of the heart a tumour of the size of a small orange. This tumour surrounded the pulmonary artery and aorta, the innominate and left carotid and subclavian arteries, running along the outer coats, but not, apparently, diminishing the channel of those vessels. The growth also extended down towards the apex and into the anterior wall of the right ventricle. The heart weighed about five ounces; it was apparently much atrophied. The lungs were emphysematous, but otherwise healthy. With the exception of a fibrous tumour in the uterus, the other organs were healthy.

Neither of these cases, I think, helps us much in determining the symptoms and diagnosis of cancer of the heart. Increase of dyspnoea, pain, palpitation, faintness, and vomiting appear, from a comparison of other cases with those which I have given, to have been the most prominent symptoms; and of those symptoms, faintness and vomiting or nausea have been most frequently noticed. When the valvular apparatus has been the seat of cancerous deposits, deranged rhythm and morbid *bruits* have been not infrequently noted.

Materials for a more accurate diagnosis of the various forms of intrathoracic cancer are daily accumulating; and I would fain hope that the clinical experience which these lectures have afforded me the opportunity of recording will be accepted as a contribution of some value to those who may be able to pursue still further the investigation of a subject full of practical interest and importance.

BLOOD-LETTING AS A REMEDY IN ACUTE SCARLATINA DROPSY.

By J. P. BRAMWELL, M.D., L.R.C.S.E., Perth,
Visiting Surgeon Perth Infirmary.

MANY years ago, I had formed a high opinion of the value of blood-letting in acute scarlatina dropsy, and more ample experience has confirmed me in my former views. A severe and protracted epidemic of scarlatina in Perth has enabled me to see much of this malady. Dropsy, as a sequela, has been unusually common, and very deadly; nine cases dying from this cause alone out of forty-four fatal scarlatina cases. During this epidemic seventeen cases of dropsy have come under my care, and on a previous occasion two, making a total of nineteen cases. Depletion has been my chief remedy, and the results have been eighteen recoveries to one death. To show that these cases have, as a whole, been far from mild, it may be stated that five of them had uræmic convulsions, more or less severe; others showed symptoms of uræmia in a less degree, and some of them were highly anasarcaous. It was observed that three-fourths of the dropsical cases were preceded by a mild attack of scarlatina. Certainly cold was not the exciting cause, as the majority of them were most carefully watched and never exposed at all. It seems more probable that, when the scarlatina rash is copious, the skin does the bulk of the poison-elimination work; when the contrary, it is the kidneys which suffer from the poison, become congested, and hence the anasarca. The disease was generally ushered in by febrile symptoms, but this was not always the case; the urine was sometimes reduced to an ounce or two in the twenty-four hours; at other times it might be as much as thirty ounces; but then, its specific gravity was always low, and it showed decided proofs of a want of excretion of urea. I need not mention that it was always albuminous, sometimes bloody, and containing disintegrated epithelia and tube-casts.

Uræmic symptoms were common enough—pain in the head, drowsiness, slowing of the pulse, which was often also unrrhythmic, dilatation of the pupils, impaired vision, amounting sometimes to all but complete blindness; rarely, vomiting of grumous blood was superadded. A curious circumstance, first noticed, I think, by Professor Christison, was also observed; that the danger of uræmia was not always in the ratio of the quantity of urine passed, or of urea excreted, some patients becoming convulsed while secreting fifteen or twenty ounces in the twenty-four hours, and others showing no uræmic symptoms while the urine was all but suppressed.

Treatment.—I have found nothing to be compared to blood-letting in the dropsy which follows scarlet fever; it is incomparably the best diuretic, and often turns the tide when all other means have failed. It is not intended, however, to assert that all cases of this kind require depletion, as not a few of the milder sort will do well if sharply purged and freely sweated; but there are many cases that altogether refuse to respond to such treatment, and diuretics even of a mild unirritating character, such as digitalis with bitartrate or acetate of potash, do not better the patient's condition in the slightest degree. In my own hands they have signally failed when used before depletion, and such is also the general experience of my professional friends in this quarter.

As a general rule, local depletion, from two to six leeches over the loins, according to age, will answer every purpose; but, should uræmic convulsions ensue, general bleeding will be found invaluable, both in arresting the fits and in restoring the secretion of urine. When the patient is over eight years of age, eight or ten ounces should be drawn, *or a decided effect will not be produced*. Chloroform may here also be used with much benefit after depletion, but I should not consider it good treatment to trust to it alone.

It has been argued against bleeding in this malady that the convulsions are, in a large measure, owing to a watery condition of blood and an exhausted state of system. This, however, is a mere assumption; the blood drawn is not found deficient in solids, and those who thus suffer, as has been already remarked, have gone easily through the primary malady, and are not much shaken. The truth is, the convulsions are caused by a blood-poison; and general depletion removes this by restoring the kidneys to working order again.

The following cases will best show the value of this remedy.

CASE I.—A boy, aged 8 years, was recovering from a mild attack of scarlatina, when, about the fourteenth day after the fever had disappeared, dropsical symptoms showed themselves. For this he was ordered calomel in very small doses, one-sixth of a grain every six hours, along with three drops of digitalis tincture, and his bowels were purged by compound jalap powder. His breathing soon became seriously impeded, and it was found that he was suffering from œdema of the glottis; this, however, was subdued by free swabbing with a

strong nitrate of silver solution, and insufflation of alum powder. His urine was albuminous, but increased in quantity. Symptoms of uræmia now supervened; namely, slow pulse, pain in the head, and dry retching; and next day there came violent convulsions, at first at intervals, and then all but constantly. His pulse was pausing every third or fourth beat, his respiration was very hurried and laboured, and at intervals a gush of grumous fluid like coffee-grounds, composed of altered blood, escaped from his nostrils, being thus ejected by the stomach. About eight ounces of blood were taken from his arm, and chloroform was then administered so often as the fit threatened to recur. We had him turned upon his side, when he became quiet, and slept for several hours. A fit again threatening, the chloroform was readministered. After this he slept well, and awoke to consciousness next morning, having no more convulsions or other uræmic symptoms; he was now passing urine freely, the secretion being aided by powders of bitartrate of potash and digitalis. This boy made a good recovery.

CASE II.—A boy, aged 11 years, had a mild attack of scarlet fever. Ten days after recovery he became slowly dropsical, without any marked febrile reaction; his urine was albuminous, contained tube-casts and renal epithelium in abundance, and ranged between three and four ounces in the twenty-four hours. He was purged freely, had warm baths, counterirritation to the loins, and diuretics, all to no purpose; he became more dropsical, and his urine rather diminished than increased. Symptoms of uræmia having begun to show themselves, I bled him to ten ounces. Immediate relief followed, and in forty hours afterwards he was passing urine in the quantity of twenty to thirty ounces daily, with a steady continued increase; the urine was still albuminous. He was kept strictly to bed, and had a warm bath every night for two weeks afterwards. The quantity of urine was now normal; the albumen was gone. Recovery was uninterrupted and satisfactory.

CASE III.—A boy, aged 6 years, after a slight attack of scarlet fever, became highly anasarcaous. The urine was reduced to two or three ounces in the twenty-four hours. He was ordered Mindererus' spirit, with antimonial wine and the warm bath, and his bowels were opened by the compound scammony powder; still there was no improvement. Digitalis infusion, with acetate of potash, was now substituted, but neither kidneys nor skin could be made to act. The dropsy went on increasing; his face was very puffy; the scrotum and penis were much swollen; he was very drowsy and complained of his head; symptoms of pulmonary congestion also appeared. Four leeches were now applied to the loins, and a very copious discharge of blood ensued, which hot linseed poultices much aided. The bleeding was difficult to control, and alarmed his parents, but no bad consequence followed. On the contrary, he began next day to pass urine in considerable quantity; a steady diuresis set in, and the boy made a good recovery.

CASE IV.—Into one of our infirmary wards a little boy, aged 5 years, entered with all the symptoms of scarlatina dropsy. Three members in this family had the scarlatina in a latent form, and all became dropsical. The little fellow referred to was quite water-logged, and of prodigious weight considering his age and size. He was purged freely, and had calomel and digitalis for several days; his loins were irritated with mustard sinapisms, but all to no purpose. He was then cupped over the loins, and four ounces of blood extracted. In forty-eight hours a free diuresis set in; he continued to pass urine in enormous quantities, and made a speedy and permanent recovery.

I could adduce several other cases of this kind where the beneficial effects of local depletion were sufficiently apparent; to do so, however, would be to extend this paper beyond due limits. I shall, therefore, conclude by the history of another case, which presented certain interesting exceptional peculiarities.

CASE V.—A delicate strumous boy, aged 8 years, had a sharp attack of scarlatina, with rather formidable throat-complication; from this he recovered, however, and all seemed to be going well. Fifteen days afterwards, febrile reaction set in; his urine became scanty and albuminous; and general anasarca supervened. He was purged smartly, had a mixture of acetate of ammonia and antimonial wine, and was sweated freely several times with hot bottles surrounded with moist flannel. The fever fell somewhat, and the urine increased, but in a few days he had returned to his old condition; the urine was more scanty, smoky, and albuminous; the fever was considerable; and he was becoming more anasarcaous. A repetition of the former remedies did not produce similar good results. Four leeches were now applied to the loins, followed by warm cataplasms; a large quantity of blood was discharged. In forty-eight hours the quantity of urine had increased; when boiled it did not indicate the presence of albumen. The kidneys continued to secrete more freely, and in eight days the dropsy was all but gone. Febrile reaction now, however, again appeared, the urine became scanty and bloody, and a second attack of dropsy (which I have never seen before in such cases) was ushered in by a convulsion

fit; this, however, did not return, and, as he had been freely depleted so recently, a moist vapour-bath, with acetate of ammonia and antimonial wine were preferred. The dropsy yielded speedily this time to the means specified, and a steady recovery followed.

It would seem that in this case the convulsions were not of an uræmic character, else they certainly would have returned and called for the use of the lancet. It is more likely they were produced by nerve-shock from an inflamed condition of important organs, such as the kidneys, just as we sometimes see in acute pneumonia occurring in young people.

We are not careful to reconcile the facts adduced with our modern ideas of inflammation, viewed from a histological standpoint, inasmuch as it is more rational to ask that theories should be remodelled to agree with facts, than facts altered to tally with theories. We frankly confess that depletion in pneumonia is injurious and not beneficial; we firmly maintain that it is highly beneficial in renal inflammation associated with scarlatina dropsy.* Both we believe to be facts unquestionable, but facts which *à priori* no modern theories of nutrition, normal or abnormal, could ever have led us to predicate. Let us hold then to the simple truths, that blood-letting is injurious in certain inflammations and curative in others, that at present we do not exactly see why it should be so, but so it is; and this we consider as a safer and better way to advance medical science, than to draw too hasty generalisations which would deprive us of a valuable remedy in not a few diseases where it is urgently needed, renal dropsy among the rest.

REMARKS ON PARACENTESIS PERICARDII.

By T. CLIFFORD ALLBUTT, M.A., M.D. Cantab., F.L.S.,
Physician to the Leeds Infirmary.

THE case of Dropsy of the Pericardium, published by my friend and colleague Dr. Heaton, in the BRITISH MEDICAL JOURNAL for July 2, 1870, and his remarks upon the case, are so interesting and so important that I cannot refrain from adding a few comments of my own. Dr. Heaton makes especial reference to the value of tapping in cases of pericardial dropsy, and he alludes to a case in which this operation was successfully performed at my request by Mr. Wheelhouse. His attitude is naturally and properly one rather of distrust and of cautious criticism; and as I have, I believe, the responsibility of bringing this operation before the profession in this country and of urging the more frequent performance of it, from me some reply may fairly be expected. Dr. Heaton's observations add to our knowledge of the subject and of its difficulties, but I am still hopeful that these difficulties are only difficulties and nothing more.

Very fortunately, in the case before us no question of responsibility in the treatment can arise; the patient was either unseen by Dr. Heaton before his death, or he died before there was any opportunity of making an accurate examination of his state. The case was one of that kind of pericardial dropsy which I have called phthisical; it occurs in phthisical subjects, is unattended by obvious inflammation, is serous in character, is abundant in quantity, and tends rapidly to return when evacuated. We see the same characters in the hydrothorax which occurs in persons of the same constitution. In my lecture on this subject in the *Lancet*, I described it as "a form which, like some forms of pleurisy, runs silently and quickly to effusion, rather than to coagulating and organising products; a form, moreover, which, from the tendency to syncope from failure of the heart's action, has been called 'paralytic'" (*Lancet*, June 12th, 1869). It is well-known that changes suddenly produced are more dangerous than the same changes slowly established; and in the present case, I suppose from the elasticity of the pericardium when punctured, and from the quantity of fluid, which was rather the quantity of a recent than of a chronic effusion, that the dropsy came on quickly, and thus killed the patient by embarrassment of the heart. The same quantity of fluid ("eight or ten ounces") slowly poured out would probably have been well borne.

Dr. Heaton attributes death to the failure "of a feeble heart seriously encumbered." The heart is said to have been "well-contracted;" and, though it was "small," no note of any degeneration of its tissue is made, so that I should attribute death rather to the rapidity of the effusion than to the quantity of it.

Be this as it may, the presence of fluid near the heart is surely a condition of ever present danger. In summing up against the operation, even if the diagnosis had been made, Dr. Heaton considers as one

* Can any one tell us how it is that pneumonic inflammation has changed its type (if it have changed it), and renal inflammation, the effect of scarlatina, is so very conservative, still to prefer the old sthenic forms to asthenic ones? It is curious how certain alleged general changes of type should pick and choose in this strange select fashion; always assuming that the change-of-type theory is correct.