4th edit., p. 119; Dr. Sibson, *Medical Anatomy*), that in cases of effusion into the left pleura, or of contraction of the right lung, the apex of the heart passes over until the axis points to the right, the following simple experiment was undertaken with the object of testing the accuracy of the above view.

Six pints of water were injected into the pleura of a female subject, causing displacement of the cardiac dulness to the right of the sternum; a stilette was then introduced at the third right interspace, close to the sternum, and passed horizontally through the chest; a second stilette was then passed in the same manner through the fifth space in a line with the first; the sternum and cartilages were then removed without disturbing the instruments, and the exact position of the heart noted. The upper stilette had passed close to the *left* side of the pulmonary artery at its insertion into the ventricle; the lower stilette had passed through the right ventricle nearer its left than its right border; a line drawn vertically from the middle of the right clavicle touched the border of the right auricle (the extreme right of the heart); a similar line, drawn from the left sterno-clavicular articulation, touched the apex of the heart (the extreme left); the axis of the heart was slightly more vertical than natural.

Mr. Henry Arnott was present at this and at a previous experiment, in which the result was exactly similar, and was kind enough to take diagrams of the exact position of the heart in each case.

In June 1868, a patient died at the Brompton Hospital while under the care of Dr. Pollock. The case was one of extensive excavation from apex to base of the right lung, with thickened pleura and contracted side; the left lung was greatly enlarged, and encroached on the middle line; the cardiac impulse was distinct, both visibly and to the touch, at the fourth right interspace, and no impulse could be felt anywhere else. *Post mortem*, the heart was found to be displaced generally somewhat to the right, but the relative position of the apex and base unchanged, the apex being opposite the fifth cartilage, an inch and a half within the left nipple; the pericardium was completely uncovered on the right side by the retraction of the lung, and the portion of the heart opposite the fourth space was the upper part of the right ventricle. The character of the impulse in this case was indistinguishable from that of the apex beat.

A similar case, one of cirrhosis of the right lung, has been this session brought before the Pathological Society by Dr. Fagge. I have notes of three such cases which have come recently under my observation, and are still living. Dr. Stokes relates an analogous case of displacement of heart, secondary to reabsorption of pleuritic effusion, in which it clearly appears that the impulse on the right side of the sternum was produced by the base of the heart. It thus appears that in cases of displacement of heart, following upon contraction of one pleural cavity, the axis of the heart is but slightly changed (usually, as above explained, slightly more transverse); and that, particularly when the right lung is affected, the displacement often appears to be much greater than it really is, owing to the covering up of the apex by the large left lung, also to its getting more under shelter of the sternum, and the uncovering of the base by the retraction of the right lung.

When the left lung is contracted, the heart is also uncovered as well as displaced; and the pulsation which is felt at the second interspace is produced by the right ventricle at the base of the pulmonary artery; the apex can be felt at the same time below the nipple, or, if the contraction is great, the apex is raised by the ascent of the diaphragm; the axis of the heart is thus rendered more transverse, and the impulse is felt in the axillary region.

Air or fluid within the pericardium causes displacement of the heart backwards, since the attachments of the heart are at its posterior part; in the case of fluid in the pericardium, the apex is slightly raised.

But little can be said, in a general way, concerning the displacements of the heart caused by the growth of tumours, since every case has some peculiarity of its own. Tumour growths, when they approach the mediastinum, usually bear the heart before them in the direction in which they are growing; and this obvious fact is often of great importance in deciding between a lung consolidation and a tumour. There are, however, exceptions to this rule; a noteworthy example of which occurred in a patient of Dr. Cotton's at the Brompton Hospital, in whom there was a cancerous tumour between the right lung and the pericardium, involving the lung and leading to secondary pleurisy, with moderate effusion; the heart in this case was scarcely at all displaced, and this was explained by the fact, ascertained *post mortem*, that the morbid growth which had originated in the bronchial glands on the right side had also affected those on the left, and had invaded the pericardium and also the left auricle, by which means the heart was fixed in position.

Abdominal tumours affecting the position of the heart being mostly of liver origin, give rise to displacement upwards, and to the left. As

before remarked, however, no general rule can be laid down. The aim in practice should be to ascertain, in all cases, the exact position of the heart; and by knowing the results of the more regular displacing causes, which are also by very far the more common, any special peculiarity of position will suggest further inquiry as to some special cause producing it. A continuance of this subject into further minutiae of detail might be considered as an endeavour to elevate what is, after all, but a very important clinical feature of many diseases, into a disease by itself—a mistake most carefully to be guarded against.

CASE OF TRAUMATIC STRICTURE.*

By CHRISTOPHER HEATH, F.R.C.S.,

Assistant-Surgeon to University College Hospital.

THE method of treating stricture of the urethra by rapid dilatation or splitting, introduced by Mr. Holt, has been received with considerable favour in professional circles as regards the ordinary forms of stricture, but I have been surprised to find that many surgeons entertain a doubt whether strictures of a traumatic origin are equally amenable to this form of treatment. Having treated several cases of bad traumatic stricture, complicated with fistula, by this method with the greatest success, I venture to bring before the meeting the last of the series as a fair specimen.

All surgeons are aware of the serious nature of strictures resulting from rupture of the urethra, from falls on the perineum, even if the primary dangers connected with retention and extravasation of urine be safely surmounted. These strictures are extremely dense; in cases of long standing, even cartilaginous in structure, and they, therefore, owing to the non-vascular condition of the parts, are the most satisfactory cases to submit to urethrotomy, whether external or internal. Both these operations, however, possess dangers of their own into which I need not enter now; but I must for a moment institute a comparison between internal division and Mr. Holt's method, in order to mention a fact which has been but recently ascertained. In a patient who was the subject of stricture, and who died of fever before being submitted to operation, I assisted Mr. Holt to split the stricture in the *post mortem* room, and to examine the preparation, which showed a longitudinal rent in the stricture, as may be seen in the illustration to Mr. Holt's work. It was naturally concluded that a similar split occurred in the living subject, though neither Dr. Cruise of Dublin nor myself had been able to discover anything of the kind with the endoscope in patients examined a day or two after the operation. Recently, however, two different surgeons have had the opportunity of examining the urethras of patients upon whom they had operated shortly before, and they found that the mucous membrane was entire, and that merely the indurated submucous tissue or stricture proper was torn. This may not, of course, be the case in every instance; but it is certain that in many Holt's dilator does not tear the mucous membrane, and hence the very slight symptoms produced. In internal division, on the contrary, the mucous membrane must necessarily be incised; and the depth to which the submucous tissue is divided will depend upon the extent of knife protruded, and not upon the full size of the urethra being attained.

In cases of traumatic stricture, complicated with fistula, my experience is that, if the urethra is restored to its natural calibre, the fistulae close spontaneously; but it is possible that severe cases might require a touch with a hot wire to make them heal up.

CASE.—Mr. W. H., aged 18, a midshipman, in June 1867, fell off the wharf at Trincomalee, astride the gunwale of his boat, and ruptured his urethra. He was landed and put under the care of a naval surgeon, who unfortunately died of an apoplectic fit the same day. Being consequently neglected, he got extravasation of urine, and his life was only saved by the arrival, on the following day, of a military surgeon, who made free incisions into the distended scrotum. He eventually recovered, with a fistula of considerable size behind the scrotum. He was taught to pass a No. 8 silver catheter for himself, and continued to do so for a couple of months; but then, being on active duty, unfortunately discontinued the practice.

The patient came to me on May 14th, 1868, in good general health. There was a minute fistulous opening behind the scrotum; from which pus exuded, and considerable thickening about the urethra in the neighbourhood. He passed water in a very small and twisted stream, which was occasionally forked. The urethra was so sensitive that he could not bear me to pass an instrument, and could not pass a No. 3 silver catheter for himself.

On the following day, under the influence of chloroform, I suc-

ceeded in getting No. 4 silver catheter through a tight stricture, and then introduced the dilator and split up the stricture to the full size, passing No. 11. The patient passed a little bloody water three hours after the operation, and nearly clear water in the evening. He had a good night without any sleeping draught.

The day after the operation, he was a little feverish, and had a slight rigor; and finding that he had had jungle fever in India, I put him on quinine, in two-grain doses, and he had no further trouble. He passed water quite comfortably.

On the third day after the operation, I passed a No. 10 silver catheter easily, and he went out for a walk. The day following, Nos. 11 and 12 were passed; and on the fifth day he passed No. 12 bougie olivaire with ease. The advantage of the olivary bougie over the ordinary one is that it is slightly conical, and also that the bulb at its extremity enables it to pass readily along the urethra without catching in the wall. I have found them most convenient after Holt's operation.

My patient continued to pass No. 12 for himself to the end of the week, and then returned to the country. A fortnight afterwards I heard from him that he was quite well and able to pass his instrument satisfactorily, and that the fistula had closed.

REPORTS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF LONDON.

TUESDAY, MAY 18TH, 1869.

RICHARD QUAIN, M.D., President, in the Chair.

REPORTS were read from the Committee on Dr. Payne's case of Ulceration of the Trachea, Dr. Hyde Salter's case of Diseased Liver, and Mr. Adams's case of Mammary Tumour.

Mr. PICK exhibited, for Dr. Fuller, an enormous Fatty Tumour of the Abdomen, twenty-eight pounds in weight, taken from a man who died in St. George's Hospital ten months after the patient's attention was first drawn to it. It lay behind the peritoneum. Microscopically, it consisted of fat, with groups of stellate crystals.—Mr. HULKE said that it might have been a tumour of a different kind, which had undergone fatty degeneration; because, if a lipoma, which was of slow growth, the case was unparalleled.—Mr. PICK said there were no appearances of any other tumour.

Mr. MYERS showed, for Mr. Potter, a Horny Growth removed from over the deltoid muscle. An epithelial growth followed in the cicatrix.

Mr. CURLING showed a Calculus with a Nucleus of Human Hair. The man had suffered for twelve months with symptoms of stone, and had been operated upon. In 1861, he suffered from retention of urine. A dermoid cyst of the rectum had been opened; and between this cyst and the bladder, it was believed, an opening had existed. Mr. Curling stated, in answer to Mr. De Morgan, that the hair was found by examination to be human.

Mr. CURLING showed a Testicle with Fibroid Deposit from a man aged 24. Plastic matter grew from the surface, and produced a projection.

Mr. CURLING also exhibited a specimen of Chronic Rheumatic Arthritis of the Knee, which had occurred after acute rheumatism, and more recently an injury, in a man aged 23. The disease was extensive, and required resection of the joint. At so early an age, this disease was unusual. In answer to Mr. Adams, he stated that there was caries, but no new deposit of bone.

Mr. BIRKETT showed a specimen of Chronic Disease of the Knee-joint, of twelve years' standing, from a female aged 20, in which the entire articular cartilage, except at three points, was destroyed.—Mr. HULKE would have wished to know whether there was true articular cartilage, or merely the semblance of it, over these joints.

Dr. DICKINSON exhibited portions of a Malignant Tumour passed by the Urethra, from a man who, when first seen, was apparently well; but he passed, once in a month or six weeks, fragments of encephaloid growth, some as large as a bean. The man died after a month's illness; but no autopsy was allowed.

Mr. GEORGE MOSELEY showed cases of Myeloid Tumour connected with the lower extremities. In one, there were considerable deposits of bone.

Dr. JOHN MURRAY showed Parotid Glands from a woman who died of acute suppurative cyanche parotidea. She had suffered also from amyloid change of the intestines and abdominal viscera. The morbid appearances of cyanche parotidea were rarely seen.

Dr. MURRAY also exhibited a Dissecting Aneurism of the Breast from a man who died suddenly, an hour after admission into the Middlesex Hospital, whither he had been sent in a state of partial col-

lapse, but sensible. He had experienced no inconvenience during life which pointed to cardiac disease. The pericardium was found generally adherent, and binding down an aneurismal sac of the size of a small orange, which was found at the commencement of the aorta anteriorly. A large cavity was also observed beneath the *visceral* pericardium, apparently of some standing, greatly distended with laminated fibrine and recent black clot, and pressing upon and almost obliterating the right cavities of the heart. The aortic aneurism had been slightly ruptured, and the escaped blood had formed this cavity. In consequence of a fresh rupture, the sac had become filled with blood, and the circulation through the right side of the heart fatally impeded.

Dr. CRISP showed an Incipient Aneurism of the Aorta and Innominate Arteries. He believed that the atheromatous plates in aneurisms were deposited after the dilatation; to which statement Mr. MYERS agreed.—Dr. CHURCH believed it exceedingly difficult to decide the question.—Dr. BASTIAN believed the change which led to aneurism was not atheroma, but a fibroid change; and, after the walls dilated, a fatty or calcareous degeneration might then take place.—Dr. GREEN had always understood that atheroma, in its earliest stage, was of a fibroid character.

Dr. BASTIAN showed specimens of Bacteria in the Blood. He had examined numerous specimens of blood, and had never found anything like a spore, but he had seen moving particles in certain diseases, as typhus and chlorosis. In the former they were probably formed from the blood-plasma; in the latter they were apparently produced by protrusions from the red blood-corpuscles. In the cells of decaying vegetable tissue, bacteria will probably be found, and where they have being formed, round protein masses are also often seen.

Dr. DYCE DUCKWORTH brought forward a Single Kidney with Compensating Enlargement; it was from the left side. There were two renal arteries and one renal vein.

Mr. GAY showed a Recurrent Cystic Tumour from the Mammary Region of a female aged 27. It illustrated, he said, the growth of these tumours from fibrous tissue.

Mr. GAY also exhibited half of the Lower Jaw of a female, which he had removed because of a fibrous growth originating in the centre of the bone.

Mr. DE MORGAN exhibited a Tumour which grew from the Femur of a female after an injury. He thought it malignant, but doubted its cancerous nature. Referred to Committee.

Mr. DE MORGAN then brought forward a Recurrent Tumour of the Testicle, of twelve years' growth. The patient was then dying.—Referred to Committee.

Mr. DE MORGAN also showed a specimen of Colloid Disease of the Breast.

Mr. HENRY ARNOTT exhibited an Enchondroma of the Parotid Gland from a young man, of six years' growth. It consisted of loose cartilage-cells and exomatosus tissue.

Dr. GREEN showed a Glioma of the Cerebellum from a patient who was under the care of Dr. Hyde Salter. His chief symptom was frontal headache.

Dr. TUCKWELL showed six Teeth, forced out by severe spasmodic movements in a case of chorea.

Dr. TUCKWELL also showed a case of Ulcerative Endocarditis, with Embolism of the Kidney and Pyæmia.

Dr. SEMPLE showed an Aneurism of the Basilar Artery, which had ruptured. The patient lived three weeks after the effusion.

Sir DUNCAN GIBB exhibited a Tumour growing from the posterior part of the Tongue, which caused death by asphyxia. Removal had a short time previously been advised.—Referred to Committee.

Mr. WILLIAM ADAMS showed an Ankle-joint from a child who died on the fourth day from an attack of Acute Rheumatism. She was supposed to have hurt her ankle. There was no great increase of synovial fluid in the joint; and there was little lymph, and no pus.

DEATHS BY POISON.—In the five years 1863-67, the number of persons who met with violent deaths by poison in England and Wales was 2,097. In 1,620 cases the description of poison is recorded thus:—By arsenic, 83; mercury, 58; opium, 114; morphia, 32; laudanum and syrup of poppies, 426; strychnia, 41; prussic acid and cyanide of potassium, 151; essential oil of almonds, 31; oxalic acid, 66; sulphuric acid, 53; nitric acid, 16; muriatic acid, 5; carbolic acid, 5; salts of lead, 242; improper medicine, 17; overdose of medicine, 52; Godfrey's cordial, 56; improper food, 33; aconite, 6; belladonna, 6; alcohol, 35; ammonia, 8; hartshorn, 3; chlorodyne, 4; vermin killer, 20; turpentine, 3; phosphorus, 15; sulphate of copper, 3; colchicum, 3; dis-infecting fluid, 3; nitrate of potash, 3; chloride of zinc, 8; spirits of salt, 3; cantharides, 2; fungi, 6; mussels, 8.