the mitral orifice measured $3\frac{1}{2}$ inches or less. If the measurement exceeded $3\frac{1}{2}$ inches (2 fingers), the stenosis was considered doubtful, and neglected. The stenosed orifice exceeded $2\frac{1}{4}$ inches (1 finger) in circumference in 108 instances, and measured $2\frac{1}{4}$ inches (1 finger) or less in 85. It is not clear from the statistics in which of the two catalogues 3 cases should be included. Of the 196 cases, 107 were females and 89 males.

The average age of death for the males was 38½ years, that for the females was also 38½ years. The average age of death for the cases of severe stenosis (1 finger or less) was 33.6 years; for the less severe cases (1 to 2 fingers, or $2\frac{1}{4}$ to $3\frac{1}{2}$ inches), 43.6 years. The average was the same for males and for females.

In 32 cases the heart is stated to have weighed 20 ounces or upwards. Of these 24 were males and 8 females. The heaviest, that of a female, is entered, probably incorrectly, as 31 ounces.

In 32 instances tricuspid and mitral stenosis were present together. Of these 21 were females and 11 males. The tricuspid stenosis accompanied almost exclusively the severe form of mitral, which included 24 of the total 32 cases. In 28.2 per cent., therefore, of the more severe cases (1 finger or less) of mitral stenosis, tricuspid stenosis was also present, whereas in only 7.4 per cent. of the less severe was stenosis remarked on the right side. The presence of tricuspid stenosis at all with these less severe forms would seem to indicate that it was not consequent on the severity of the mitral stenosis; and that its frequent association with the more severe stenosis is due to a common cause, severe or general enough to affect both orifices, while producing considerable contraction of the mitral.

The tricuspid orifice measured less than 3 inches in circumference in 4 cases only, and between 3 and 4 inches in the remaining 28. The orifice was not considered stenosed if the circumference exceeded 4 inches.

In a large proportion of all the cases the aortic valves were thickened, distorted, or otherwise defective, but were seldom referred to as stenosed.

Neglecting the reports for the year 1886 (which were not made with sufficient care to be useful for most statistical purposes), there remain 77 cases of the severe, and 96 of the slighter: form of mitral stenosis for the nine other years. In the 77 severe cases the left auricle is entered as greatly hypertrophied in 22 instances, as hypertrophied (to what extent is not indicated) in 17 others, and as slightly hypertrophied in 5 more. In the 96 less severe cases it was considerably hypertrophied in 14, hypertrophied (amount not indicated) in 2 others, and slightly in 5 more. Auricular hypertrophy, more or less considerable in amount, was therefore recorded as present in 44 of the 77 cases of severe mitral stenosis, and in 21 of the 96 slighter cases, that is in more than half of the one, and in less than a quarter of the others; it is therefore associated especially with severe stenosis.

The left auricle is recorded in the 77 cases of severe stenosis as much dilated in 14, dilated (amount not stated) in 18 others, and slightly dilated in 7. Among the 96 less severe cases it was much dilated in 8, dilated (amount not indicated) in 15, and slightly dilated in 6. Dilatation would, therefore, seem on the whole to be more marked at the necropsies on the severe than on the slighter cases, but the statistics are not carefully enough recorded for conclusions of much value to be drawn on this point.

In the 77 cases of severe stenosis the right ventricle was given as considerably hypertrophied in 22 cases, hypertrophied (amount not defined) in 15 others, and slightly hypertrophied in 4. Hypertrophy, therefore, was present in 41 of the 77 cases; making thus about the same proportion as given for the hypertrophy of the left auricle. In the 96 cases of slighter stenosis hypertrophy of the right ventricle was considerable in 11, was present (amount not recorded) in 8, and slight in 6; which again differs but little from the proportion given for the auricle in these cases.

In the 77 severe cases the right ventricle was stated to be greatly dilated in 16, dilated (amount unrecorded) in 18, and slightly in 6. Among the 96 slighter cases dilatation of the right ventricle was considerable in 7, was present (amount unrecorded) in 17, and slight in 3. The right ventricle is therefore evidently more likely to be found dilated at the

necropsy in cases of severe than of slight stenosis of the mitral orifice.

The left ventricle was generally normal or small; rarely enlarged by either hypertrophy or dilatation.

Of the total number of cases 23 were from the surgical wards where death was not due to asystole from organic lesion. In these instances, though stenosis was present, dilatation of the left auricle was only found on 4 occasions. Dilatation of the auricle would therefore appear to be but rarely associated with mitral stenosis not directly fatal, hence it probably appears late in the disease, causing or accompanying cardiac failure. My statistics, published last year, led me then to the same conclusion.

Pericarditis had been present in nearly one-third of all the cases, and frequently where no definite pericarditis could be traced there was an unusual quantity of fluid in the pericardium. The pericardium in 35 instances was universally adherent. The influence of this pericarditis on cardiac hypertrophy or dilatation could not be determined from the statistics.

Sudden death occurred in at least 7 cases.

Advancing age—60 and upwards—seems to be a factor in the development of stenosis of the mitral orifice, as it was found on 19 occasions in persons of this age, in only 3 of whom was there a history of previous rheumatism. Dilatation of the mitral orifice appears more likely to be followed by dilatation of the left auricle than does stenosis.

My statistics further indicate that a presystolic murmur is heard some time in the course of the disease in about three-fifths of all cases, and a thrill in about one-third or rather less; while a history of rheumatism may be traced in upwards of 60 per cent. of all cases.

The above statistics are, unfortunately, limited in their value and accuracy by the *post-mortem* reports, from which, with some assistance from the ward reports, they are taken. The records of necropsies are sometimes very vague and unsystematic in their account of cardiac lesions. This applies especially to the manner in which hypertrophy and dilatation of the ventricles and auricles are recorded and distinguished.

REPORT OF A CASE OF HERNIA OF THE LUNG, WITH REMARKS.

By C. FRANK WIGHTMAN, F.R.C.S. Eng.,
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THE occurrence of hernial protrusions of the lung is exceedingly rare, and the literature on the subject is by no means abundant, and as one would naturally expect, is almost confined to papers published by military and naval surgeons. The standard textbooks, such as Erichsen's *Science and Art of Surgery*, and Treves's *System of Surgery* dismiss the subject with but a very brief allusion to this interesting condition, and we are left for the study of these herniæ to Morel-Lavallée's valuable essay.

As these cases then are so rare, every case that is met with ought to be put on record, and it is for this reason that I have been led to publish the following very rare form of pneumocele.

I must here acknowledge my indebtedness to Dr. George Patrick, under whose care the case came, for his ready assent to my publishing it.

D. F., aged 47, a striker, was seen on August 15th, 1896, and complained of a painful lump in his back.

History.—He had been playing his musical instrument (the trombone) on a certain Saturday about the middle of July; he felt nothing at the time, but on the Sunday night following, at about 6 P.M., whilst standing in the street he felt a sudden pain "like the stab of a knife" in his back. He went straight home and went to bed, and applied hot water and turpentine. He stayed in bed over Monday and Tuesday, and went to work on the Wednesday as the pain, although still present, was much better. He had no cough, no hæmoptysis, no vomiting. He noticed no lump till Thursday, August 6th, but had had pain, sometimes better and sometimes worse, since the first attack.

Present State.—On examination a swelling was found about $3\frac{1}{2}$ inches long and 2 inches wide, situated opposite the seventh and eighth dorsal spinous processes on the left side about $1\frac{1}{2}$ inch from the processes, freely movable in all directions, not tender, but painful; no dimpling of skin on pinching it up. The swelling was lobulated, and had a distinct edge, which slipped from under the finger. It felt very like a lipoma, and was evidently situated beneath the muscles.

Operation.—The patient was put under chloroform, an incision made,

and the tumour exposed lying under the trapezius and erector spinae. On exposure it looked very much like the free edge of the lung, being of a dirty brown colour and lobulated. The tumour was freed all round, and was found not to communicate with the cavity of the chest, neither could any opening into the chest be found. The tumour was quite circumscribed, and was covered by a thin shining membrane; it was non-capsulated, and microscopically was found to be normal collapsed lung. The patient made an uninterrupted recovery, but never lost the pain.

The causes of hernia of the lung are: (1) *Traumatic*, in which case the hernia is generally consequent upon extensive wounds of the chest rather than upon small or moderate sized wounds. A few cases are on record in which a hernia has appeared some time after a fracture of the ribs without any wound. (2) *Congenital*, the hernial mass protruding through congenital sternal clefts or through gaps left in the thoracic wall by arrested growth of the ribs. Under this head would also be included those cases in which the lung is found to reach high up in the neck. (3) *Spontaneous*, in this variety the hernia appears without any previous trauma, and is the result of some great or long-continued strain, such as coughing, straining during parturition, or during the use of wind instruments, etc. The above recorded case comes under this heading.

The position of a pneumocele is usually in front, and especially in the lower intercostal spaces; the next commonest place seems to be the side, and the rarest position is behind. This can readily be accounted for anatomically; the anterior inferior part of the chest has much less muscular support than either the anterior superior part, the sides, or the posterior part; and the lower costal cartilages are more widely separated than the rest. The case under consideration is remarkable in its position; not only did it occur posteriorly, but it occurred in that part of the back covered by the powerful erector spinae and trapezius muscles.

The appearance of the hernial mass is usually sudden, and always occurs during a forced expiratory effort, when the lung is subjected to increased pressure, and the part least supported protrudes; this protrusion is aided, the glottis being closed, by air which is forced out of the lung on the one side into that on the side of the hernia. In playing wind instruments the obstruction is, of course, not the closed glottis, but the instrument itself.

A recent hernia is usually easily reduced, but very soon adhesions take place, and render the hernial protrusion irreducible, hence treatment, short of the operative, is useless as a remedial agent after the first day or two. Here again the above case is remarkable; not only was the hernia irreducible, but it had become completely cut off by Nature from the thoracic cavity, and lay beneath the muscles as an isolated and clearly circumscribed tumour. No opening whatever could be found leading into the chest.

Should operative interference be advised in these irreducible cases? This is a difficult question to answer, as one's individual experience in these cases is very limited, and the number of recorded cases is not great. Personally I am of the opinion that they ought to be left alone, and the patient allowed to go about with a pad and bandage properly applied. If the condition were causing the patient much inconvenience I should advise operation, the escaped lung being reduced, after freeing it from adhesions, if possible; if impossible, a ligature should be placed round it and the mass removed; but we must remember that this need not necessarily rid the patient of his pain, for, as occurred in the above case, the patient may suffer just as much from pain after the operation as he did before, the pain being possibly caused by the lung dragging on some adhesion at the spot at which the hernia protruded.

A CASE OF CHOLELITHIASIS AND BILIARY OBSTRUCTION COMPLICATED BY PERITONEAL ABSCESS.*

By W. F. BROOK, F.R.C.S.,
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THE patient, a married woman aged 48, was first seen by me in consultation with Mr. Jabez Thomas on November 28th, 1896. She was suffering from jaundice, and pain and swelling in the right side. Five years previously she had been ill

* Communicated at a meeting of the South Wales Branch of the British Medical Association at Cardiff.

for three weeks with jaundice, severe abdominal pain, vomiting, and constipation. A second similar attack followed two years later, and a third—a slight one—about a month before the present illness. At each attack the stools were clay coloured. At the time of the second she had noticed some swelling below the right ribs, which had reappeared from time to time since, accompanied by abdominal discomfort.

The present, her most severe illness commenced a fortnight previously, with continuous pain, becoming acute at intervals, in the epigastric and right hypochondriac regions, jaundice, vomiting, and the passage of clay-coloured stools. The swelling became larger, and during the week before she was seen she had two or three shivering fits, followed by profuse sweating. The pain had ceased during the last two days. On examining, in addition to deep jaundice, there was tenderness and swelling extending from the right costal margin to $2\frac{1}{2}$ inches below the umbilicus and from the midline into the flank. There was doubtful fluctuation and dullness over this area. The temperature was 102° . The next morning she went into hospital. The temperature was 101° , and she was in no pain. On December 1st a white motion was passed after several doses of sulphate of magnesia, and in the evening the temperature rose to 104° .

The following day I opened the abdomen in the line of the gall bladder, and after prolonging the incision downwards to the extent of 4 or 5 inches, to clear the edge of the liver, which was much enlarged, came upon the gall bladder distended, and reaching 3 inches below the umbilicus. To the right of the incision it was adherent to the abdominal wall, while to the left it was free. A second incision was then made in the right flank, and about a pint of fetid and bile-stained pus evacuated. The abscess cavity was bounded above by the liver, behind by colon, and on either side by distended gall bladder and

A. Liver. B. Gall bladder. C. Abscess.

parietal peritoneum respectively. No gall stone was found. The gall bladder was then aspirated, and 10 ozs. of healthy-looking bile removed. It was found to contain gall stones, forty-three of which were removed through an incision in the anterior wall. The ducts were thoroughly explored by the finger in the peritoneal cavity, and a long probe passed up the cystic duct. No further stones could be detected, and no communication was found between the abscess and bladder or duct. The opening in the gall bladder was fixed to the abdominal wound, and the wound closed. The abscess cavity and the gall bladder were drained under dressings carefully shut off from one another. The next day the temperature became normal, and remained so.

The abscess was kept open as long as possible, as it was thought a stone might have been overlooked. It, however, closed in ten days, without the appearance either of a stone or bile. For the same reason a tube was kept in the gall bladder for three weeks, for, as the stools remained clay coloured it seemed likely that a stone, the original cause of the mischief, had been overlooked. At the end of that time the tube was removed, and the opening in the gall bladder closed by a well-fitting cork, with the result that all the bile which had hitherto escaped by the fistula now found its way into the intestines. The fistula was then allowed to close, and the patient made an uneventful recovery. Every motion both before and for some days after the bile had re-entered the intestines was carefully examined, but no stone was found.