sion, she was kept in the hospital for rest and nursing until August 8th.

Posterior Colporrhaphy.

The patient was again admitted in the end of November in order to undergo the operation of posterior colporrhaphy. Her symptoms then appeared to result from dragging of the freely-movable uterus upon its artificial adhesions owing to the want of support from the pelvic floor. Menstruation since the operation had been regular, almost painless, and the period lasted only from three to four days. General health greatly improved. The operation of colporrhaphy was performed on December 14th, 1904. There was nothing in the operation or after-history worth recording. The patient was discharged apparently well on January 2nd, 1905, and was lost sight of until she presented herself as an out-patient in November, 1905, complaining of some discomfort in the region of the cicatrix. She was admitted for observation early in December, and was found to be pregnant about twelve weeks. Careful palpation of the cicatrix appeared to show that there was unusual dragging on the adhesions between the middle of the corpus uteri and the abdominal wall. The other symptoms were merely those characteristic of normal pregnancy.

It would be out of place to discuss principles and to generalize on the report of an individual case, however remarkable. Still my experience of a great variety of cases with wonderful similarity in the results leads me now, in calling attention to the operation of ventrifixation by means of a striking case to deprecate the pessimism running through the discussion to which reference has been made. I deplore also the *obiter dicta* tone of the pronouncements of men whose views might do so much good or harm among medical practitioners who fortunately have to be consulted before operations are decided upon. In reading many reports upon this operation from Europe and America, I find the judgement of Hofmeier comes nearest to my own conclusions:

As the final result of observations carried on for a considerable series of years, it may be confidently stated that the operation of ventrifixura uteri properly carried out . . . has established for itself an eminently distinguished position in the treatment of displacements of the uterus, and that Olshausen, in introducing it, has conferred a great and permanent benefit upon operative gynaecology.

THE IMMEDIATE AND REMOTE RESULTS OF THE HIGH OPERATION FOR VARICOCELE,

WITH A REPORT ON THE EXAMINATION OF 100 CASES.

BY

EDRED M. CORNER, M.B., B.C.CANTAB., F.R.C.S., SURGEON, OUT-PATIENTS, ST. THOMAS'S HOSPITAL; ASSISTANT SURGEON, HOSPITAL FOR SICK CHILDREN.

and CYRIL A. R. NITCH, M.S.LOND., F.R.C.S., RESIDENT ASSISTANT SURGEON, ST. THOMAS'S HOSPITAL.

As all surgeons know, it is exceedingly difficult to keep in touch with cases of varicocele after operation, chiefly owing to the fact that so many of the patients subsequently enter the public services. Consequently, though 100 cases do not seem very many on which to base the results of a common operation, yet, under the circumstances, the number is extremely gratifying, as even to see these more than 500 patients were written to. Before proceeding further, we desire to thank the surgical staff of St. Thomas's Hospital for their kindness and courtesy in permitting us to examine their cases. In all seen the high operation had been performed, and in the majority the wound had healed by first intention. After exposing the cord by a short incision the pampiniform plexus was isolated, ligatured in two places about 2 in. apart, and the intervening portion excised. In some cases the two ends were approximated by a suture which transfixed the stumps, whilst in others this little detail was neglected. This step is an important one from the patient's point of view. When the stumps are sewn together a continuous cord is the result, and we have known men refused admission to the army, police, etc., being told that their operation was a failure. It is better to omit this step in candidates for the services. The results of this operation may be conveniently divided into immediate and remote.

A. IMMEDIATE RESULTS.

Haemorrhage.

With modern methods of haemostasis this is a rare complication, and as such would have been omitted had it not an important bearing on the after result. Slight haemorrhage, such as would occur in connexion with a damaged vein, leads to the formation of a haematoma; this, by pressure upon the remaining veins of the pampiniform plexus, is a potent factor in producing oedema and thickening of the scrotum, subjacent tissues, and testis. In all the cases in our series where a post-operative haematoma was noted these changes were also found. In some instances, fortunately rare, haemorrhage is due to slipping of the ligatures, dependent upon a faulty knot or defective material. In those cases in which the divided ends of the pampiniform plexus are approximated by tying the ends of the proximal and distal ligatures together it is quite conceivable that the traction exerted by the testis would lead to the slipping of one of them. That this does occur has been proved from time to time, hence this method is to be deprecated. In two cases it was noted that the pelvis was filled with blood which had escaped from the retracted end of the spermatic artery projecting through a rent in the peritoneum. This naturally leads the surgeon to imagine that he has accidentally wounded the serous membrane at the primary operation. We believe, however, that such is not the case, and that the rent in the peritoneum is due to the pressure of the blood effused in the inguinal canal; when this escapes into the peritoneum the patient shows marked signs of severe internal haemorrhage together with a rapidly-increasing pelvic swelling.

The warning, if haemorrhage is occurring after an operation for varicocele, is that the patient complains of pain. The scrotum should always be examined when this complaint is made.

Orchitis.

Inflammatory changes in the testis were noted in several of the cases in our series (5.6 per cent.). In some the change was acute and occurred from the third to the sixth day, whilst in others it was either subacute or chronic, and was characterized by definite hardness and thickening of the testis. In no cases was suppurative orchitis recorded. If this form of orchitis is regarded as being due to the presence of pyogenic micro-organisms it is difficult to understand why the wound in all these cases healed by first intention; consequently, the only plausible explanation is that of passive hyperaemia following the sudden removal of some of the afferent and efferent blood vessels. The after result must now entirely depend on the collateral circulation. If it is rapidly and well developed, the testis returns to its normal size and all acute symptoms subside; but if, on the other hand, the collateral circulation is imperfect, then the testis and scrotal tissues are thickened permanently. This leads to the discussion of a third complication, namely:

Oedema and Thickening of the Scrotum, Enlargement of the Testis, and Hydrocele.

If these tissues are carefully examined about a week after the operation some alteration in their consistence will be noted in nearly all cases. In addition to this thickening, which affects the skin, scrotal tissues, and testis, a flaccid hydrocele will be frequently found. This, therefore, may be regarded as the germ of similar changes which will be described as "remote."

Suppuration.

Septic infection may nowadays be regarded as a comparatively rare complication. With aseptic methods the suppuration percentage at St. Thomas's Hospital, over a period of three years, works out at 4 per cent. This fact is mentioned in order to show that the remote results are not due to inflammatory induration of septic origin.

B. REMOTE RESULTS.

The Testis.

Of all the conditions found after the operation for varicocele none were so constant as changes in the consistence of the gland itself, which were due to the formation of fibrous tissue. In many instances this is easily demonstrated by the greater hardness of the testis as compared with its fellow. When present in lesser degree, it is recognized rather by loss of elasticity than by actual hardness, and is most readily detected by absence or impairment of the sensation of fluctuation yielded by the normal gland of the opposite side. Such fibrosis was sufficiently gross as to be recognized in 84 per cent. of the

cases examined. This figure is too low, as in no less than eight cases the presence of a tense hydrocele prevented examination of the testis; and in more, a flaccid hydrocele rendered the observation very difficult to make. Therefore, without exaggeration, we may say that fibrosis of the testis was present in 90 per cent. of the cases. In order to ascertain, if possible, how much of this change was due to the varicocele and how much to the operation a large number of patients was examined before operation. Fibrotic hardening of the testis was found fairly frequently when the varicocele was large and had been present for many years, as in men over 30; but in boys and young men under 23 (who constituted fully nine-tenths of the number we examined after operation) the change was comparatively rare. From this it may be assumed that the changes which result from a varicocele of long duration are produced more rapidly and in greater degree by ligation of the veins.

The Epididymis.

The operative procedure of removing the pampiniform plexus produces an indirect effect upon the epididymis by increasing its blood supply, for the anastomotic return circulation is carried on largely by the deferential veins. Further, post-operative thrombosis may easily be produced in these veins by some injury inflicted upon them, in which case fibrosis of the epididymis will be more marked.

The estimation of these changes has been a very difficult matter, but we can definitely state that when the operation has been followed by signs of gross venous obstruction the epididymis is usually larger, harder, and more easily felt. If these signs persist, the corresponding changes in the testis are the more obvious. A further result of fibrosis of the epididymis will be mentioned later—the formation of spermatoceles.

Size of Testis.

In conducting the inquiry into the subsequent size of the testis it must be pointed out that our results are unchecked by knowledge of the gland prior to the operation. It is, however, a matter of general observation that the testis associated with a varicocele is smaller than that of the other side, yet examination after operation showed us that 55 per cent. were distinctly, and often greatly, larger. This increase of size, invariably associated with hardness and loss of elasticity, is probably due to a new formation of fibrous tissue such as is known to occur in connexion with chronic venous congestion or inflammation elsewhere, the presence of which is proved by the co-existence of swelling of the tissues, thickening of the scrotum, hydrocele, etc. What the subsequent spermatogenetic function or the procreative value of the enlarged testis is we cannot say, but it is highly probable that it is much diminished if not altogether lost.

In 21 per cent. of the cases the testis was obviously smaller, but whether this lesser size was present before operation we cannot say. In 16 per cent. the glands were of about the same size. This equality may have arisen from an increase in the bulk of the rather smaller testis, which is known to be commonly associated with a varicocele, and considering the great frequency of obvious enlargement this explanation would seem to be likely. In either case both these classes will contain glands which have or have not undergone any change. Therefore, regarded from the point of view that the operation precipitates results similar to those which the varicocele itself produces in the course of years, the testis is very unlikely to remain unaltered.

The Skin and Connective Tissue of the Scrotum.

The changes in the size of the testis appear to be related to the degree of venous obstruction caused by the operation. Signs of this obstruction are not seen alone in the testis, but also in the skin and tissues between the tunica vaginalis and the scrotum, as well as in the tunica vaginalis itself as already pointed out. These changes occur secondarily to the operation, the congestion in the tissues lasting so long as the anastomotic circulation is inadequate. It is of particular interest that such thickening of the scrotum and connective tissue, or the formation of a hydrocele, are very rarely seen to complicate a varicocele. Their occurrence after operation supports our suggestion that, if unwisely performed, the operation precipitates and magnifies all the signs and symptoms of venous obstruction which a varicocele itself might cause, and to obviate which we operate.

The tissues between the scrotum and the tunica vaginalis were noticeably thickened in 41 per cent. This figure is really too low, as the formation of a hydrocele obscures the observation. In 50 per cent. the scrotum was thicker on that side than on the other. Here again the percentage is too low, as hydroceles stretch the scrotum, making it appear thinner than it really is.

Hydrocele.

One other result of post-operative venous congestion which we will have to consider is that of passive distension of the tunica vaginalis with fluid, a process comparable with the oedema of the scrotum and other tissues. This hydrocele makes its appearance very shortly after operation and in some cases is noticeable within the first week. It is an unpleasant complication for the patient, apart from its presence and weight, because it will cause him to be refused for the services unless he undergoes another operation. The hydroceles consequent upon varicocele operations are of two kinds: one large and tense, which is noticed by the patient; the other small and flaccid, which is not noticed by the patient. The former were present in 8 per cent. of the cases, the latter in 15 per cent., making a total of 23 per cent. Although 8 per cent. were aware of their condition, the majority, in spite of the hydrocele, pronounced themselves better for the operation. This flaccid hydrocele is undoubtedly due to a chronic inflammatory condition of the tunica vaginalis following venous obstruction; in some instances it may depend upon any increase of vascularity in the part. For instance, one patient only developed a hydrocele after his marriage, eighteen months from the date of his operation. In another, the hydrocele only appeared two and a half years after the operation. The man was only 23 years of age and could give no cause for the appearance of the swelling. As there was no disease of the testicle the suggestion is, that in his case some vasomotor disturbance upset the unstable physiological equilibrium of the tunica vaginalis. Though as a general rule these hydroceles form early and, in some cases, disappear entirely, yet it is obvious that a man is not free from this complication for a considerable period.

Spermatocele.

The occurrence of two spermatoceles in our series would seem to be correlated with the fibrotic changes in the epididymis. They were apparently single and would seem to be associated with the venous congestion and fibrosis, though there must have been some local cause which determined the site of their formation. Hitherto the possibility of their occurrence as a remote result of the operation for varicocele has not been recognized.

Briefly, the history of the two cases is as follows:

A. P., aged 25, was operated on for varicocele in June, 1902. He was examined two and a half years later, when the left testicle was found to be half the size of the right, and on the top of the epididymis there was a spermatocele which he had not noticed. This was not present at the time of operation.

A. B., aged 33, underwent an operation for left varicocele in March, 1901. For two years he suffered with dull, aching pain. When seen in 1905 the left testis was slightly larger and harder than the right. His general health was "ever so much better." Unknown to him there was a spermatocele attached to the top of the globus major.

Hernia.

An inguinal hernia was present in 2 per cent. It is naturally uncertain if these herniae were due to the operation; still, if a large varicocele is removed, a large loose inguinal canal is left, through which a protrusion may take place easily. It would seem better to suture the inguinal canal when operating on large varicoceles.

Recurrence.

In 2 per cent. some recurrence of the varicocele was noted, but in neither instance was there any pain or discomfort therefrom. One other man was refused admission to the services, the thickened tissue being mistaken for a varicocele.

Thickening of Vas, Sensation, and General Results.

In 8 per cent. the vas deferens seemed to be thickened, and it is highly probable that this was more often

the case but escaped observation. With regard to subjective sensations, 17 cases alone complained of any pain in the testis and 6 complained of pain in the scar. In none could any cause for the pain be discovered. Considerable difficulty was experienced in this part of the inquiry, particularly with respect to objective pain on account of imperfect education or dullness of the individuals. The sensation of the testis was unaltered in 84 per cent., definitely increased in 9 per cent., diminished in 5 per cent., and altogether lost in 2 per cent. Twenty-six out of the 100 reported themselves as neither better nor worse for the operation. At first sight this is disappointing, but it must be remembered that many operated upon at the desire of the "services" had little or no varicocele, and were ignorant of their condition until refused by the examining officer. It cannot be expected that even surgery can render happier those who suffer nothing. Only 4 definitely stated that they were worse for the operation, and the rest—70 per cent.—were definitely improved and well satisfied.

In conclusion, it must be mentioned that the comparatively high percentage of complications has doubtless arisen from the operation being entrusted almost invariably to the less experienced. In this way too large an amount of the pampiniform plexus has been removed. An authority has stated that it is his practice to remove all the veins which are enlarged. We cannot but think that such a proceeding is to be discouraged and condemned.

Summary of the Remote Effects of the Operation for Varicocele.

Testis harder	90	per cent.
Testis enlarged	55	,,
Testis same size as gland of other side	16	,,
Testis smaller than gland of other side	21	,,
Thickening of the scrotum	50	,,
Thickening of the tissues between the scrotum and the tunica vaginalis	41	,,
Tense hydrocele	8	,,
Flaccid hydrocele	15	,,
Spermatocele	2	,,
Inguinal hernia	2	,,
Recurrence of varicocele	2	,,
Thickening of the vas deferens	+8	,,
Sensibility of testis, unaltered	84	,,
,, ,, increased	9	,,
,, ,, decreased	5	,,
,, ,, lost	2	,,

Patient's Opinion of the General Result.

Pleased and improved	70	per cent.
Unaltered (including many who never had any trouble)	26	,,
Stated themselves to have more trouble	4	,,

A CASE OF SECONDARY CARCINOMATOUS GROWTHS SIMULATING TUBERCULOUS HIP-JOINT DISEASE AND MILIARY TUBERCULOSIS.

BY

ROBERT E. LORD, M.D.LOND. (Colwyn Bay). and CHAS. W. BUCKLEY, M.D.LOND. (Buxton).

HISTORY.

MISS K., a sparely-built woman, aged 50 years, with no family history of tuberculous or malignant disease, and with a family and personal history of dyspepsia and rheumatism, had her left breast removed by an extensive operation in April, 1903, for a growth of over a year's standing. She remained well until December of the same year, when after exposure to cold and wet she had a typical attack of lumbago. Rest in bed, and antirheumatic treatment were followed by almost complete disappearance of the pain, which left the back, and moved to the outer side of the left hip. It soon, however, recurred, becoming worse, and paroxysmal in character, and after June, 1904, she was completely bedridden. About this time the limb took up a position of flexion, adduction, and internal rotation, and the pain, which had now acquired the starting character of that of hip-joint disease, was greatly increased by all movements of the joint and by pressure on the groin, but not by pressure upwards along the shaft of the femur. No definite bony enlargement or real shortening could be detected, and not more atrophy of muscles than could be accounted for by disuse.

At the end of October the total absence of loss of flesh and other signs of cachexia demanded a reconsideration of the diagnosis of secondary malignant disease, and in view of the long history of the case, the recurrence of rheumatic attacks in previous life, and the occurrence during her illness of pains which had yielded to antirheumatic treatment, it was decided to send her to Buxton, which was done on October 31st. Her condition then was as described above, with the addition that for a few nights her temperature had risen to 99°, and physical signs of slight general bronchial catarrh had appeared.

While being moved from bed to a carrying chair, before leaving her house in Colwyn Bay, she felt, and others heard, something give way in the hip; this was followed by excruciating pain. The following day at Buxton the trochanter was found to be displaced upwards, and the pain was extreme, and increased by all movement and by pressure upwards along the femur. After a few days' rest and galvanism the muscles became relaxed, and definite bony thickening around the trochanter could be felt. The temperature still remained 99° to 100° in the evening, and to the signs of general bronchitis were added bronchial breathing and crepitation at the right apex, and diminished air entry at the left base.

During the second and third weeks of her stay in Buxton there was marked general and local improvement, but at the end of this time signs of fluid appeared at the left base, and patches of bronchial breathing and râles became evident in both sides. The breathing became laboured on November 22nd, and was worse on the 23rd, though the percussion dullness extended only to the angle of the left scapula, and the heart was apparently not pushed over by the fluid. She rapidly became worse, and on the 25th, when seen by both of us, was obviously dying. The clinical picture then was one of acute miliary tuberculosis. There was extreme dyspnoea, both sides of the chest moved freely, and there were signs of fluid up to the angle of the left scapula; the heart was acting comparatively well, and its dullness did not pass to the right of the sternum; there were paralysis of the right orbicularis palpebrarum, and external squint of the same eye. She died during the night.

NECROPSY.

At the necropsy the lungs (especially the left) and the liver were studded with secondary nodules, the left pleural cavity contained about three pints of fluid and the right was obliterated by old adhesions. None of the other organs were obviously affected. The axilla was not opened, but no glands could be felt through the skin. The left hip showed two fractures of the head and neck, one of which had completely healed by bone and the other in places only by fibrous tissue. Both the bone and the articular cartilage were much eroded. The acetabulum also showed a vertical fracture extending into the pelvis, the edges of which overlapped and the adjacent articular cartilage was undermined. There was no attempt at repair of this fracture. The synovial membrane was not affected as far as could be seen by the naked eye, the joint contained no fluid and showed no overgrowth of any description, and no extra-articular changes were present either outside or inside the pelvis. Microscopical examination at Owens College, Manchester, proved the condition to be one of secondary carcinomatous growth.

REMARKS.

The total lack of loss of flesh and cachectic symptoms up to the last week of an illness due to malignant growths and lasting so long is most unusual, and seemed at one time to point away from malignancy or tubercle and towards a rheumatic arthritis, while the final symptoms inclined us to the diagnosis of tubercle.

A further fact pointing to a rheumatic condition was the very consistent relief to the pain given by the internal administration of aspirin and the external application of methyl salicylate. J. Ruhemann (*Deut. med. Woch.*, June 2nd, 1904, quoted in the *Medical Review*, November, 1904), however, strongly recommends aspirin for the relief of inoperable carcinoma, and his observation was certainly borne out by this case, and methyl salicylate has also recently been recommended for the same purpose, though we cannot now find the reference.