ART. XV.—*Surgical Observations*. By CHRISTOPHER FLEMING, M. D., M. R. I. A., Surgeon to the Richmond Hospital, &c., and SAMUEL WILMOT, M. D., Surgeon to Steevens' Hospital, &c,

WE venture to hope that we may render available to our professional brethren the ample fields of experience placed at our command, by recording the results of our joint observations on some of the more important topics in surgery; and with this view we now proceed to describe what we have observed as to *the casualties or contingencies attendant on the palliative treatment of hydrocele of the tunica vaginalis testis*.

When we reflect on the numerous cases which present themselves to the surgeon for the palliative treatment of hydrocele of the tunica vaginalis testis, and when we consider the particulars of the requisite operations to accomplish it, we are rather surprised than otherwise, that the casualties to which we wish to direct attention are not of more frequent occurrence. The operations alluded to are often carelessly performed, and the subjects of them too often absolutely reckless of their immediate consequences, yet these consequences are by no means free from danger even as regards the life of the patient, quite irrespective of the necessary injury to the structures implicated. The usual order of their occurrence as to time, after operation, as witnessed by us, is as follows:—

1. Sanguineous effusion into the cavity of the tunica vaginalis testis, or hematocele of that cavity.
2. Diffuse inflammation of the scrotum.
3. Acute inflammation of the tunica vaginalis.
4. A combination of these three lesions.

I.—HEMATOCELE OF THE TUNICA VAGINALIS TESTIS.

We have not very often met with this casualty, as attendant on the palliative treatment of this form of hydrocele.

The surgeon is generally on his guard in that class of cases

in which it is likely to supervene, and is hence cautious in the steps of the operation. The contingency, however, does occur, and its accession is attended with a train of symptoms so characteristic, that, in the vast majority of instances, it betrays much ignorance not at once to recognise their presence. It is not requisite to enter here into any details respecting them, as the hemorrhage and its source must attract the notice of the most careless observer. In the following cases some peculiarities existed which we must notice.

CASE I.—*Hematocoele of the Tunica Vaginalis Testis, from Wound of a deep Vessel in the Operation for Tapping; slow Development of; Absorption of Fluid.*

R. Donnelly, aged 58, presented himself at a dispensary, the subject of hydrocele of the tunica vaginalis testis. The disease was of long standing, the swelling was considerable, and its diagnosis was unattended with any difficulty. The fluid was attempted to be drawn off by a trocar and canula in the ordinary manner, an incision in the integuments having been previously made with a lancet. Some resistance being found in the entrance of the trocar, from a hitching against the shoulder of the canula, a violent plunge was made, whereby it suddenly darted forwards, and struck the back part of the sac. On the withdrawal of the trocar, blood passed through the canula, and tinged the hydrocele fluid that escaped. The nature of the accident at once attracted attention, and the impression was that either the testicle was struck, or some of the vessels of the chord wounded.

The man was subsequently admitted into hospital. No local phenomena supervened for twenty-four hours, when a swelling rapidly arose in the seat of the original hydrocele, and soon attained a magnitude of the size the tumour previously possessed. Sensations of fluctuation were manifest; and the weight of the tumour, together with its complete opacity, left no doubt as to its nature. No constitutional symptoms of any

note supervened; and the local were those above mentioned, accompanied by a sensation of tension. By rest, by cooling medicines, and by ordinary evaporating and stimulating applications, the swelling gradually diminished, but a fulness and hardness persisted for a very lengthened period, the hydrocele did not, however, return.

CASE II.—*Hematocele of the Tunica Vaginalis Testis; sudden and rapid Formation of; Absence of Wound of any Vessel; Supervention of inflammatory Symptoms; Surgical Interference; Recovery.*

Patrick Yourell, aged 59, a messenger, had been in the habit of applying at hospital for the tapping of a large hydrocele of the tunica vaginalis. On previous occasions the operation was followed by the ordinary favourable results, not the slightest inconvenience supervening. On the present occasion the fluid was drawn off with equal care, and no unusual symptom presented itself; not a trace of hemorrhage from the wound in the scrotum or the sac of the tunica vaginalis was visible, and all fulness subsided. The usual dressings were adjusted; but in less than ten minutes a sensation of swelling and weight was felt whilst he was walking home; this feeling rapidly increased, and he re-applied at hospital, when, on examination, the side of the scrotum corresponding to the hydrocele, was found to be distended as fully as previously to the removal of the contained fluid, a quarter of an hour before. All the essential signs of sanguineous effusion suddenly increased. The requisite constitutional and local remedies were at once adopted, and for the first eight or ten days the case appeared to progress favourably, though there were occasional sensations of pain and tension, and some slight fever; the integuments of the scrotum were yet natural in every respect in consistence and colour. About this time a puncture was made from which there escaped some dark fluid, like treacle, with great relief to the tension; it was devoid of smell or purulent commixture.

In less than twelve hours after this, a violent rigor occurred, followed by intense pain in the tumour and high fever, from the persistence of which it was now deemed indispensable to make a free incision through the sac. It was found filled with dark, grumous blood, mixed with serum; but no special point of hemorrhage could be detected. Relief, both local and constitutional, rapidly followed, and the obliteration of the cavity was effected in the usual way, the permanent cure of the hydrocele being also accomplished.

Both these cases occurred in Steevens' Hospital, where we had the opportunity of watching their progress.

We might enumerate other cases; but the above are sufficiently illustrative of the objects we have in view. They not alone manifest the substantive symptoms of this casualty, but also show the varied periods at which they may supervene, and the varied sources from which the hemorrhage may arise. In one case, there can be no doubt as to the cause of the casualty and to the source of the bleeding—the characteristic symptoms being rapidly and suddenly formed, almost under the eye of the surgeon, and by his act. In the second, the local symptoms are equally striking; whilst the origin of the bleeding is conjectural, being most probably attributable to the removal of the ordinary support to enlarged and distended vessels. In a third class of cases, an interval elapses before the disease develops itself; although a certainty exists as to the mischief done by the surgeon. All these details demand attentive consideration, if we wish to base our remedies on accuracy of diagnosis, combined with a knowledge of the anatomy of disease—the only certain foundations for successful or scientific treatment. But here, let us ask, may the surgeon, from over-anxiety or from oversight, be mistaken in his diagnosis? May he imagine hematocele of the tunica vaginalis of the testicle to occur as a sequela of his operation of tapping, when such is not the fact? We think so; and as we write, there is now under treatment in the Richmond Hospital a case

which has fully confirmed us in this idea, especially where an interval of some hours may elapse before the hematocele is established, as in Case I. The case we now allude to is that of Nicholas Egan, aged 27, a butcher by trade. We have it noted in our case-book as being *chronic enlargement of the testicle, with copious effusion into the cavity of the tunica vaginalis*. The swelling was large, and approaching somewhat an hour-glass shape, from a contracted band across its central portion: it was almost globular above and below, and each compartment gave a distinct sensation of fluctuation.

There was no difficulty in the diagnosis, and the outline of the testicle adherent to the anterior wall of the sac could be most satisfactorily delineated when testing the transparency of the fluid within, a test which, we may here notice, is much assisted by viewing the tumour through a stethoscope, if a candle is not within reach. We tapped this hydrocele; there was more of bleeding from the wound in the scrotum than we expected, and, moreover, during the operation the man fainted, both circumstances attributable, perhaps, to his being in the erect position. But, to the point, although we fully emptied the tunica vaginalis, in less than twenty-four hours afterwards we found it distended nearly as tensely as before. We had not the comparative weight of the tumour to assist us, owing to the condition of the testicle, but we had its perfect translucency.

Upon the test mentioned we based our diagnosis, assisted by the history of the case, and the subsequent rapidity of absorption and subsidence of the swelling have proved its accuracy. After the lapse of less than a week hardly a trace of fluid is to be found, and the outline of the testicle is fully discernible. This never occurs with blood. It requires for its complete absorption as many weeks as days are enumerated here. The surgeon should then be prepared for the rapid, though, we must add, rare, re-accumulation of fluid after tap-

ping for hydrocele in some cases, and not be mistaken in his diagnosis.

When hematocele of the tunica vaginalis occurs, its treatment must be influenced by the same general principles which guide us under similar circumstances elsewhere. Hematocele of the tunica vaginalis, of the character we describe, is identical with traumatic hemorrhage in other situations, and our constitutional and local remedies cannot materially differ. Our whole effort in the first instance must be to stay the effusion of blood; in the second, to quiet vascular action both generally and locally, and prevent inflammation and its consequences, whereby we promote that object so desirable under all aspects,—namely, the absorption of the effused fluid by nature's work, to the exclusion of surgical interference unless called for, but when so, to anticipate any destructive processes by those prompt and energetic local means which it is unnecessary to specify further than as detailed in the cases cited.

II.—DIFFUSE INFLAMMATION OF THE SCROTUM.

We have met with two kinds of diffuse swelling of the scrotum, as the result of tapping hydrocele with the trocar and cannula. The first is a very mild form of œdematous inflammation, requiring little, if any, treatment. In the course of about from twelve to twenty-four hours after the operation, an erythematous blush is observed upon the skin of the scrotum, which becomes slightly swollen, œdematous, and tender: generally, no appreciable constitutional disturbance accompanies it. By making the patient observe the horizontal posture for a few days, fomenting the scrotum, and administering a brisk purgative, the swelling will quickly subside.

The second form of diffuse swelling of the scrotum is a severe and dangerous form of disease, and demands, upon the part of the surgeon, the adoption of the most prompt and decisive measures. It is a "gangrenous erysipelas" of the scrotum.

Under the title of "acute anasarca," or "inflammatory œdema" of the scrotum, the late Mr. Liston has described an affection which leads to extensive sloughing of the integuments, and, according to his opinion, the disease is not substantially inflammatory. He says, alluding to the swelling of the scrotum: "This distention is or is not attended by redness or erythema of the surface; but there is reason to think, from the suddenness of the accession, and from the appearances on exposing the cellular tissue, that there is no actual inflammation of its texture, there being no induration, nor any appearance of lymph or puriform fluid in the areolæ." Now, without wishing to deny the probability of there being an affection of the scrotum, characterized by the sudden effusion of serosity, in large amount, into its areolar tissue, unaccompanied by any distinct inflammatory action, after carefully perusing, and duly considering the cases given in illustration, we incline strongly to the belief, that the affection, described by Mr. Liston as "acute anasarca of the scrotum," is identical with that which we have designated "gangrenous erysipelas" of that part. The symptoms of this affection, as we have usually observed them, are as follow:—The patient is first seized with a severe rigor, and soon the scrotum becomes red, swollen, and œdematous. The swelling rapidly increases, until it attains often an immense magnitude, presenting a bright red, glossy appearance; the rugæ being completely obliterated, from extreme tension of the areolar tissue beneath. As the effusion into its meshes proceeds, the feel conveyed on pressure becomes firmer, leading to the impression that a material, more solid than mere serum, occupies it; and if we make an incision into the part, turbid serum freely escapes, and the cut surfaces present a yellowish-white appearance. As the case progresses, the redness changes to a dusky hue, the swelling becomes soft and boggy to the feel; vesications, filled with a brownish serum, form on its surface, and the scrotum is suddenly converted into an extensive slough, which bears an exact resemblance to wet chamois leather stretched

across the testicles. When the slough is removed, the testes are laid bare, their only covering being the tunica vaginalis in which they are suspended. Once the slough is cast off, it is incredible how rapidly the reparative process is sometimes set up. Healthy granulations overspread the denuded surface, and quickly skin over; and if care be only taken to draw forward whatever portion of skin on each side may have escaped the destructive process, a very small cicatrix will remain. Accompanying these fearful local changes, constitutional effects of an alarming character are to be observed. In the very early stage, the fever is in general high, but it soon quickly merges into a low typhoid type, the predominant features of which are prostration of strength, restlessness, and loss of sleep. If, however, the patient has battled through the sloughing stage, as soon as the sloughs are cast off, all fever abates, and health is gradually restored.

In the greater number of cases we have witnessed, though the penis has been red, and the integuments infiltrated, it has generally escaped the sloughing process going on in the scrotum; but in some instances gangrene extends to it. In many cases, also, we have observed red patches leading from the scrotum in the direction of the spermatic cord to the lower part of the abdomen, under which circumstances the appearances, with the accompanying constitutional symptoms, bear so strong a resemblance to those caused by infiltration of urine, that nothing but the proof furnished from passing an instrument, and the history of the case, can enable us to arrive at a fair diagnosis.

The treatment of "gangrenous erysipelas" of the scrotum consists in making free incisions at the earliest possible period, facilitating the separation of the sloughs in the more advanced stages, and supporting the patient's strength all through by every means in our power. We have met with many such cases: the following, though an example of the idiopathic form of the affection, illustrates so well the foregoing observations

that we shall narrate it here. In it both penis and scrotum were involved in the sloughing process.

CASE III.—*Idiopathic gangrenous Erysipelas of the Scrotum; Acute Form; Recovery.*

Patrick Tully, aged 28, a labourer, of intemperate habits, and exposed to much hardship, was admitted into hospital. He stated that, seven days previously to admission, he was seized with a violent rigor, followed by nausea and vomiting; and shortly afterwards he perceived the skin of the scrotum to become red and swollen, both which conditions rapidly increased.

On his admission, the whole scrotum, except a narrow border, almost entirely round, was found in a complete state of sphacelus, resembling a piece of wetted chamois leather, stretched across the testes. The penis was swollen, the subcutaneous areolar tissue, particularly that of the prepuce, being greatly infiltrated; the skin was of a deep red, almost purplish hue, and on the under surface of the organ was a slough of considerable size.

The constitutional symptoms were as follow:—

Pulse 92, weak and compressible; tongue coated with a moist yellow fur, and great thirst and restlessness; he spoke occasionally incoherently. The patient can pass urine in a full stream, and the perineum is altogether disengaged. A full-sized catheter having been first introduced, and it having been thus ascertained that no obstruction in the urethra was present, free incisions were made into the gangrened parts, which liberated a few drachms of pearl-coloured serous fluid.

On the following day, a line of demarcation was observed between the dead and living structures; the sloughs then commenced to separate rapidly, and his health began to improve; and in exactly five days from the date of his admission, the sloughs were completely removed, leaving the testes uncovered except by the tunica vaginalis, which presented a dull white colour. In a week afterwards, all the parts were covered with healthy granulations.

The slough on the penis continued to spread a little after his admission; but not long after the separation of those on the scrotum, it began to be detached, and was soon replaced by a vigorous granulating surface.

The treatment consisted in the application of poultices and the warm dressing, fomentations of poppy-heads with camphorated spirit, in the proportions of an ounce of the latter to a pint of the decoction of the former; wine, porter, and strong nutriment.

The foregoing is a case in which the progress of the disease was very acute; but we have met with some instances where the affection was comparatively chronic or subacute throughout its successive stages, and was limited in extent, as is well exemplified in the following case.

CASE IV.—Diffuse Inflammation of the Scrotum after Tapping for Hydrocele; Chronic Progress; Peculiar limits of Sloughing Process; Recovery.

A. B., aged 55–60, in apparent rude health for his period of life, was tapped for hydrocele of the right tunica vaginalis testis. Its peculiar signs were well marked, with the exception of its shape, which was more globular than usual. The fluid drawn off was considerable, and its colour was tinted with more of a greenish hue than ordinary; it may also be remarked that it contained spermatozoa^a. Notwithstanding directions to

^a We have seen the hydrocele fluid assume varied shades of colour: as in the case noted it is often tinted green; we have seen it a perfect grass green; also colourless, almost aqueous, and these we have met with transparent and opaque; on two late occasions we found it like rice water, like milk and water, and like weak tea mixed with milk, and in such of a peculiarly disagreeable odour. In all these instances, with the exception of the grass green, we found spermatozoa very evident, in that we fancied at first that we saw these minute beings, but it appeared to us that the round bodies alone existed, the bristle-like tails were not visible to us. We have found them decidedly enjoying an independent motion, and that when the ovate bodies alone appeared to exist.

We made these examinations too carefully to be deceived, guarding ourselves

the contrary, this man went through his office work the day of the operation, and walked about without proper support of the scrotum. He was attacked with shivering about thirty-six hours afterwards, and felt the parts uneasy; he yet continued his duties, and he was now (on the fourth day) obliged to take to bed. The fever increased, and the scrotum swelled and assumed the character above described. A slough about the size of a shilling showed itself at the lowest part, where there was also oedema more considerable than elsewhere; an incision was made through it, and other incisions at points where its integuments were tense and shining. A considerable quantity of wheyish-coloured fluid escaped, the areolar tissue underneath presenting an ash-coloured appearance like matted wet tow. The margins of the incisions subsequently became gangrened, but only to a small extent, so that isolated patches of the scrotum were alone destroyed; the areolar tissue underneath separating in flakes to a variable extent, and proportionably undermining the remainder of it. Under the use of bark and stimulants, the constitutional symptoms gave way, and the local were repaired, with a comparatively limited destruction of the integuments, in about five weeks from the operation.

ACUTE INFLAMMATION OF THE TUNICA VAGINALIS TESTIS.

This form of inflammation, as attendant on the simple operation of tapping hydrocele, is not of common occurrence. Should it supervene, and assume that character ordinarily present, and always desirable in the radical cure of this disease as now adopted, it would hardly be entitled to notice in this commu-

against the ordinary sources of deception. In one specimen we also found a few octohedral crystals of oxalate of lime. We may add, that we have met with the hydrocele fluid loaded with cholesterine. In one case the fluid was dark as chocolate, apparently homogeneous, but when shaken and then examined, or when allowed to throw down a deposit, the floating micacious and glistening particles gave it much the appearance of variegated sealing wax. Indeed, we would venture to anticipate the microscopic discovery of cholesterine by this test, even when the colour is not much altered from the ordinary amber colour. It looks as if oil was mixed through the fluid.

nication; but when it exhibits a form to which we are anxious to direct attention, it requires great circumspection, not alone as regards early diagnosis, but also as to its efficient treatment, being always attended with much constitutional disturbance, and being productive of a series of local morbid changes indispensable to be familiar with. Like that of diffuse inflammation of the scrotum just noticed, it may be acute and rapid in its progress, whilst again it may be slow, and assume somewhat of a chronic or subacute character. We have never met with it that it has not been ushered in by constitutional symptoms, and those of a highly inflammatory and sthenic type, yet most treacherously gliding into the very opposite extreme.

In the variety of inflammation which follows a subacute course, the symptoms are most deceptive, and are often so unconnected and isolated, that it requires no small amount of attention for their detection. This is the form of inflammation that we have generally met with as contingent on tapping hydrocele, and the following case affords a good illustration of its features, both local and general, and also of the requisite treatment.

CASE V.—*Acute Inflammation of the Tunica Vaginalis Testis, supervening on Tapping Hydrocele; Suppuration; Surgical Treatment; Recovery.*

Richard Kennedy, aged 46, labourer, and of tolerably healthy constitution, was for eight years the subject of hydrocele of the right tunica vaginalis testis, the history and nature of which require no particular notice. This hydrocele had been repeatedly tapped, and on one occasion was treated by acupuncture^a.

^a We have not unfrequently adopted this mode of palliative treatment of hydrocele amongst the working classes, and we are strongly disposed to the opinion that it is more suited to them if unable to rest quiet after tapping. We have never witnessed any unfavourable result from it; and moreover, we think that, often, the accumulation of the fluid is less likely to recur so soon.

On Saturday, November 30, it was again tapped. The steps of the operation were perfect, not a trace of blood beyond that necessarily attendant on the wound made, was visible, and the fluid removed was of the ordinary character, and in quantity about twelve ounces. The necessary dressings were adjusted, and the usual directions given as to rest, abstinence, &c. The poor man was, notwithstanding, obliged to work at a very laborious employment in a forge throughout that day, and at bedtime was struck with acute pain in the testicle of the affected side, accompanied by uneasy sensations in its vicinity, and some difficulty in passing urine. Violent shivering also now supervened; he had nausea and vomiting, and all the symptoms of high inflammatory fever set in. Some medicines and a warm bath relieved him, but the pain in the testicle continued almost unabated until the night of Sunday, when the scrotum began to swell, and in proportion to its increase in size, the pain gradually diminished. He was admitted into hospital on Tuesday evening, the 3rd of December, and when visited on the following day, the scrotum was found enormously distended, its veins turgid, and its colour in the immediate vicinity of the wound, and for some distance around, of a vivid red, and in fact presenting all the characters of diffuse inflammation of this structure, but limited in its extent. There was no general œdema, and there was perfect freedom of motion of every portion of it elsewhere over the tumour. This had reached the size it possessed before the hydrocele was tapped four days previously, as may be somewhat estimated from the fact, that the tumour measured in the longitudinal direction from the perineum forwards, fifteen inches, and transversely, fourteen, assuming nearly a globular shape. It was tense in feel; not much intolerant of pressure, and communicated to the hand a peculiarly hot sensation. It appeared to have great density, and it could not be said that there was any very distinct sense of fluctuation. In no part was it translucent, and its weight was considerable. Accompanying these

local phenomena, there was fever, the prominent features of which were, urgent thirst, furred tongue, deranged bowels, and total loss of appetite. The pulse was quick, and the skin dry; but there was really no appreciable amount of suffering complained of from the tumour. The case was considered and treated as one of inflammation of the sac of the hydrocele, with effusion, and local and constitutional remedies were accordingly prescribed.

The note taken on the 6th December, three days after admission into hospital, was as follows:—Fever, thirst, and restlessness less; no pain in the tumour, except when coughing or sneezing, and then it is all referred to the groin; no abdominal tenderness; all redness of scrotum removed; feeling of tension, and pain on pressure, less also; and he expresses himself as free from any pain when at rest. He was ordered diaphoretic mixture and evaporating lotion, as before.

9th. Local symptoms almost stationary; no increase of swelling; no pain; no redness; tension less, but sense of fluctuation more distinct; general symptoms also more stationary; tongue clean, but yet thirst and loss of appetite. He was directed to continue the local applications, cold or warm as agreeable, and the tumour to be supported; infusion of bark was ordered for him to-day.

10th. Twelfth day from the operation of tapping, and from the occurrence of rigor. Swelling not increased, as ascertained by measurement; absence of pain of any moment, no matter in what direction the tumour is moved; sensation of fluctuation more distinct, especially at the anterior part; weight considerable, and total absence of transparency; no discoloration of the integuments of the scrotum; in two or three patches there is some feeling of œdema, but yet the whole scrotum is moveable over the tumour; fever continues, and at times a feeling of chilliness is experienced; the skin is generally moist and damp. Treatment, general and local, was continued, and more generous diet ordered.

12th. Symptoms much the same; feeling of chilliness occasional; appearance of tumour and sensations in it are much as before; no pain; no redness; œdema equally limited. Local and constitutional remedies as before.

13th, 14th, 15th. The notes on these respective days, as regarded the constitutional symptoms, were, that there was rather more of a disposition to sweating, but no rigor had occurred; and that the countenance indicated somewhat of suffering, though none was complained of; fever was persistent, though diminished; pulse ranging between 80 and 90; tongue clean; thirst less, and food relished. There was superadded to the local symptoms already noted, an extension of the œdematous patches of the scrotum, with a slight tint of red on the surface; yet the absence of any pain, at least of moment, in the tumour was such that it could be poised in the hand, and turned from side to side without any annoyance, and considerable pressure was equally tolerated. There was the sensation of an additional weight in the tumour, and fluctuation in portions of it was manifest. No change was made in the treatment.

16th. Rather more fever, yet no rigor; no chill of any kind; pulse as before; scrotum somewhat more full and œdematous; not uniformly so, but in patches, and here the sensation of fluctuation more distinct; comparatively little pain even when firmly pressed.

17th. General feeling of uneasiness complained of; uncomfortable sensations in the tumour, but not amounting to pain; scrotum more extensively œdematous, and the patches of redness alluded to, more diffused; bulging of scrotum at two distinct points in this situation increased, and sensation of thinning and fluctuation more manifest; countenance haggard; sweating more profuse; other constitutional symptoms stationary.

The opinion now entertained in consultation was, that the case had reached that stage in which surgical interference was called for; that suppuration had taken place within the sac of

the tunica vaginalis; that the cavity should be fairly exposed, and the treatment afterwards conducted on ordinary principles. These steps were accordingly adopted, and a free longitudinal incision being made, a quantity, not much less than a pint, of serous fluid tinged with blood and mixed with pus and flakes of lymph, escaped. This was totally devoid of any fœtor, and no coagula of blood or fibrine were present. The tunica vaginalis was enormously thickened, especially in its anterior portions, where it was more than half-an-inch in depth, and the whole appearance resembled much that of an aggravated case of pericarditis. The thickening was evidently the result of the effusion of strata of plastic lymph, and this lymph, now firm and consistent, extended upwards towards the spermatic cord and downwards below the site of the testicle. The latter was slightly coated, but its consistence and size were natural; thus confirming the beautiful pathological law first inculcated by Gendrin. The surface of the whole cavity exposed was smooth; it communicated to the finger a soft, villous feel, and its colour was uniformly of a lightish grey, with somewhat of a pinkish tint. It was not highly vascular-looking, neither did it present any granulating appearances. It is unnecessary to particularize the subsequent treatment of the case. Primary hemorrhage was guarded against; the requisite dressings were varied according to the stages of the reparative processes set up, and ultimate recovery took place, the sac of the tunica vaginalis being completely obliterated. It may also be remarked, that the treatment above noted was not followed by any constitutional disturbance. On the contrary, on the day of the operation the man ate his meals as usual, and had little or no suffering beyond that naturally to be expected.

The length at which we have detailed the particular features of this case will render it unnecessary to extend our remarks much further.

The question of the presence of hematocele, in the first instance, at once suggests itself, but is disposed of when we reflect

on the history of the case, and when we contrast it with the morbid changes exposed at the operation. The necessity of an earlier interference in the way of operation might also be considered, but the character of the constitutional and the local symptoms, in cases of which we now treat, is really very deceptive. Neither one nor the other have the semblance of great intensity. The attendant fever is only violent at its onset, and then lapses into a state which, for the time, reconciles both patient and surgeon to its presence; and the local symptoms are, in reality, not severe, after the three or four first days. This is not unfrequently the case in inflammation of serous membranes in other situations, where copious effusion takes place rapidly, and we are very much disposed to think that too early interference is injurious. In cases which we allude to, nature often does her work better with closed walls until a certain stage, when the surgeon may assist her; but if he does so earlier, symptoms of serious local and constitutional disturbance may be superinduced, and the history of the radical cure of hydrocele confirms this view as regards the tunica vaginalis. When inflammation attacks its cavity after tapping, we have always observed that it runs into suppuration, or rather that it is identified with it; and amongst the cases which have fallen under our notice, we cannot bring to our recollection one in which plastic effusions did not take place to an equal, if not greater extent than in the case noted, and in which the serum effused was not largely mixed with purulent matter, and in all, the treatment adopted immediately stayed the constitutional symptoms, and the local progressed most favourably.

It would appear to us that the interference of the surgeon beyond the adoption of those antiphlogistic and general measures, unnecessary here to specify, must be entirely influenced by the circumstance of the case, and that the period for interference should not be permitted to exceed those limits when the implication of the coverings of the tunica vaginalis is manifest. If the scrotum become œdematous, in patches or other-

wise, if its natural mobility over the tunica vaginalis cease, and if, in addition, there be the slightest disposition to the supervention of diffuse inflammation, ever so limited in extent, we should not hesitate to adopt treatment, as in the above case, no matter what may be the sensations of the patient in the part, or what constitutional symptoms may be present, otherwise we should apprehend very serious results from the complication of the worst form of diffuse inflammation of the scrotum.

The last division of our subject, namely, the combination of the three lesions described: hematocoele, inflammation of the scrotum, and of the tunica vaginalis, requires little or no comment, as an accurate recollection of the substantive symptoms of each will at once satisfy the practitioner of the nature of the case. The following short report will serve as an illustration:—

CASE VI.—W. C., aged 45–50, was tapped for hydrocele of the tunica vaginalis; in the operation it was obvious, from the history given, that a large vessel was wounded, and that effusion of blood into the cavity of the sac was the result. He applied at hospital about a week after the operation; the scrotum was distended to the size of a swan's egg; the integuments were œdematous and of a dusky hue, and the seat of the incision made in the operation was sloughing, and from it was exuding a serous fluid tinged with blood and excessively fetid. The integuments around were infiltrated with a wheyish fluid, which by pressure passed by the sides of the slough. A probe passed into the opening, moved freely under them and to a considerable extent, and without difficulty entered the tunica vaginalis, when a most offensive treacly discharge escaped. The amount of pain complained of was comparatively trifling, and the constitutional symptoms, though of a low asthenic character, were scarcely so severe as might have been expected in a case of the kind. A sharp-pointed bistoury was introduced at the aperture, and the sac of the tunica vaginalis freely laid open above and below it; dark grumous blood, of a most fetid na-

ture, mixed with large lumps of coagula, with pus, and with sloughs, was removed, and the cavity dressed with pledgets of lint dampened with turpentine. The tunica vaginalis was like parchment, but the testicle, as in the last case, was soft in feel and of the usual size. In addition to the local treatment, every support was given to the constitution, and the man recovered perfectly in a fortnight after his admission into hospital.

In concluding our observations for the present, we may add that, although we cannot, perhaps, lay claim to much originality, yet we are not thereby deterred from laying them before the profession, as the concentration of opinions on practical subjects, when confirmed by a reference to cases, cannot be otherwise than useful. Under the respective sections we have adopted, most valuable information is, doubtless, to be gleaned from ancient and from modern authors; yet the special application of "remarks on the casualties and contingencies attendant on the palliative treatment of hydrocele of the tunica vaginalis testis" appeared to us to be desirable, from the variety of character they often assume in their origin and in their progress. That form of hematocele illustrated in the second case is peculiarly deserving of attention, as being by no means unlikely to occur in large, flabby hydroceles; and under the head of "acute inflammation of the tunica vaginalis testis," the details of the fifth case, and of that which follows, cannot fail to excite much interest in the mind of the anatomist and pathologist, quite apart from any surgical value they may possess.