SOME OBSERVATIONS
ON THE
CURE
OF
HYDROCELE
OF THE
TUNICA VAGINALIS TESTIS,
WITHOUT PROCURING
AN OBLITERATION OF THE SAC.

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Read Dec. 9, 1817.

I AM desirous of offering the following cases of Hydrocele of the Tunica Vaginalis Testis to the Society, because the cures were remarkably easy and expeditious to the patient, and effected by a slight extension of the palliative operation or simple puncture ; and also because this successful result was procured without inducing an adhesion of the tunics and obliteration of the cavity of the sac. I trust there are many cases where the same operation will be equally successful, and I have

therefore taken the liberty of adding such remarks as a consideration of the subject has suggested, which I hope will not be deemed too tedious an intrusion upon the time of the Society.

CASE I.

I was desired to examine a tumor of the scrotum, by a man who had been affected with the disease sixteen years. It had appeared after an injury of the parts, and had always been thought a rupture. He was of an healthy and robust habit, fifty years of age. I found the disease to be a Hydrocele of the Tunica Vaginalis Testis of the left side. The tumor was opened with a broad shouldered lancet, in the customary situation, the lancet in consequence of its figure making a larger incision into the external covering than into the Tunica Vaginalis; fourteen ounces of clear water were evacuated through the opening; when the Tunica Vaginalis was emptied of its contents, and a small part presenting at the internal opening, this was slightly hooked with a small dissecting hook, and a portion so brought forward through the internal incision, as to enable me to cut it away with a pair of fine scissors. The puncture was then closed and supported with adhesive plaster; the parts were put into a bag truss, and the

patient enjoined rest and a recumbent position. The day after the evacuation the patient was walking about the house upon my visit ; there was a little tenderness and tension of the scrotum upon examining, but no pain in the loins or fever. The third day the scrotum was much the same ; the plaisters were removed and fresh ones applied, as they did not lie comfortably. On the fourth and fifth day the man walked up to my house, and from this time the tenderness and tension of the parts gradually subsided ; the incision healed in an ordinary time by the first intention, and the result was a complete cure in less than a fortnight, so that the man returned to his customary employment.

In this case it is evident, that the consequence of removing a small portion of the Tunica Vaginalis Testis, was only a gentle and favourable inflammation of that membrane, the mildness of which was doubtless to be attributed to the endeavour of healing the external opening by the first intention. I have frequent opportunities of seeing this patient, and as the inflammation was so very mild, it always appeared to me that the cure was effected without any obliteration of the cavity of the sac. On the 20th of July, 1817, I examined the part, several years after the operation ; it was rather fuller than the opposite side of the scrotum, but perfectly cured, and the testicle

manifestly unconnected with the Tunica Vaginalis.

CASE II.

I opened a Hydrocele of an elderly healthy man, which had appeared without any ascribable cause six months previous ; eight ounces of a clear transparent fluid were evacuated, a small portion of the Tunica Vaginalis Testis was cut away, as before stated, and the external opening healed by the first intention in little more than a week. On the second day the scrotum was tender, and a little enlarged, which gradually subsided from the fifth day without the use of any external or internal means, except being supported in a bag truss. No effusion has since taken place. I lately examined the part, and could find no trace of the existence of a previous disease, except the remains of the puncture, which was very slight and scarcely perceptible ; and as several years have elapsed, there can be no expectation of a return of the affection. But my attention was chiefly turned to an examination of the natural connections of the parts, with a view of confirming my notes of the case ; and I can have no hesitation in asserting, that no union has taken place betwixt the Tunica Vaginalis and the Tunica Albuginea Testis.

CASE III.

Mr. R. consulted me about an enlargement of the left side of the scrotum ; four years previously he had hurt the part against the saddle when hunting. The enlargement commenced in a short time afterwards : it was not very large ; attended with numbness of the thigh and sense of weight in the loins ; it was of a pyramidal shape and transparent. The disease being evidently Hydrocele, a puncture was proposed, to which the patient was extremely averse ; the disease however enlarged, and he submitted. About five ounces of water were evacuated through a puncture with a broad shouldered lancet, a portion of the Tunica Vaginalis was brought forward and cut away with scissors ; the external opening was accurately closed, held together with adhesive plaister, and supported in a bag truss ; in the afternoon the patient walked about his house, giving directions to some workmen without any inconvenience. Upon the second day I visited him, and found that he regularly walked about his house and garden, without sustaining any particular inconvenience, having kept the part supported. The scrotum was slightly tumefied and rather tender to the touch, but there was no pain in the loins or fever. On the fourth day he walked to my house about a mile ; the plaister was removed and another applied ; the scrotum was still rather full and tender,

but these symptoms gradually subsided, and in less than a fortnight the part was quite well. In this case also, the cure was completed without an abolition of the cavity, and a sufficient time has elapsed to decide upon its certainty.

It is easy by careful examination to ascertain, whether or not the cure of Hydrocele has taken place without abolishing the cavity of the sac. Upon the day I examined the scrotum in the second case, I also examined a scrotum where cure was effected by the abolition of the cavity. In this latter case the testicle was rather harder, larger, and less moveable beneath the external covering, and this may be expected, since the union of the two tunics necessarily diminishes the mobility of this organ, and gives a sensation as if the testicle rolled immediately under the scrotum, having no greater space of motion than is allowed by the looseness of the cellular membrane. The contrary is the case when the cure is completed without obliterating the cavity, the testicle retaining all that looseness and mobility which it possesses in a state of nature.

In these cases no such effusion took place as that recorded by Mr. Ramsden, as immediately succeeding the quantity of stimulus he gave to the inner surface of the sac; the effect of cutting away a small portion of the Tunica Vaginalis, and healing the opening in the scrotum by the first in-

tention is evidently inflammation of that membrane, unaccompanied by any effusion of fluid, or inflammation of the testicle: in the three cases above related, the inflammation was also unusually mild, and not succeeded by any obliteration of the sac.

There is not any opinion in the practice of surgery, which has had so unlimited an acquiescence, as that the cure of Hydrocele requires a complete obliteration of the cavity containing the fluid. Douglas first seems to have had some doubts upon this, but rather insinuates than affirms the doubt, by considering an union as very improbable, in those cases where the sac is old, thick, and indurated. From the universality of this opinion it has necessarily followed, that all operations proposed for the radical cure, are founded upon a presumption of the necessity of this obliteration; the cases of Mr. Ramsden, however, prove that this is matter of assumption only, and not of fact, and there are other observations which shew how unfounded has been the opinion which has had so unanimous a concurrence. When Hydrocele is dispersed by the use of dissentient applications, which has happened occasionally in adults, and which I have frequently seen in children; and when the fluid is absorbed from other causes, of which Mr. Pott gives two cases, undoubtedly the cavity of the Tunica Vaginalis Testis undergoes no process of abolition: but what has most fre-

quently happened, and the process of which has excited little inquiry, is that recovery which occasionally succeeds to simple puncture and the evacuation of the fluid.

Mr. Elsa was of opinion that the simple puncture was more successful formerly than at present, owing to the puncture being made larger ; if this were really the case, it would be desirable to return to such a practice, for to cure by one mild operation, is better than to cure by two mild operations ; and it is laid down by Sir James Earle in his excellent work, that previous to attempting a radical cure, the palliative operation should always be performed once. But the cause of cure after puncture will not be found in the size of the incision. Mr. Pott, to whom this operation is under so great obligation, has pointed out the cause of cure, though I think he has not drawn such an inference as the premises warrant. " If the opening in the Tunica Vaginalis was small and united again immediately, the bag always filled again with water, and the disease recurred." So says that admirable writer : and again he remarks, " If the orifice instead of immediately uniting became inflamed or sloughy, such an adhesion of the coat to the albuginea testis sometimes followed, as caused an abolition of the cavity, and consequently a radical cure." Warner has a case very much in point : a puncture was made with a lancet, and a tent introduced through the opening ; a discharge

came on on the fourth day, followed by an abscess, which being opened healed in a few days. I presume that such a rapid healing of the abscess could not possibly have taken place, had there been any collection within the cavity of the Tunica Vaginalis Testis ; such a collection of pus healing thus could only have been situated in the cellular membrane of the scrotum. What then is the inference we would draw, but that when the opening heals by the first intention, we fail in producing a cure ; and that when the opening does not heal by the first intention, a cure very frequently follows, not indeed in the greater part of cases by the abolition of the cavity, but because the inflammation of the sac thus excited rouses and stimulates the exhalant vessels to a more vigorous and healthy action, thus overcoming that relaxed and atonic state of them which is the cause of the accumulation.

Whatever may be the remote causes of Hydrocele, the proximate cause will not be found in diminished action of the absorbent vessels ; of this Sir James Earle's 25th Case is a proof : a small incision was made into a Hydrocele immediately after a bruise, when a fluid, of which the major part was blood, issued out ; the bag was not emptied, but closed and healed. A short time after the tumor was again opened, and the fluid discharged was of a pellucid straw colour. Upon this case the author remarks, that the absorbents

on the surface of the membranes appear to have had the power of separating the red globules and absorbing them ; whether this follows as a consequence I do not inquire ; enough is proved for the present purpose, that the absorbents, so far from being tardy or inert in their functions, were in a state of considerable activity ; and we are reduced to explain the phenomena of the disease upon the grounds of an increased secretion only. Whether the accumulation of the fluid be the consequence of an increased activity of the vessels, as is Mr. Ramsden's opinion, or of a relaxed and debilitated state of them, may be difficult to decide ; but from the total absence of all symptoms denoting increased action, and since a cure does frequently follow the application of a stimulus to the sac, it would appear that the proximate cause of the effusion consists in a relaxed and debilitated state of the exhalant vessels of the part.

If these opinions are correct, it would appear that a stimulus to the vessels of the part, and not an union of the two membranes, is the natural cure ; for who would prefer abolishing a cavity which doubtless has its uses so far as regards the functions of the testicle, rather than to effect a cure by stimulating diseased vessels to a sound healthy action. The inducing a certain degree of inflammation, has the effect of stimulating these vessels and superseding the diseased state of them, as Mr. Ramsden's cases prove. Nor is the part

singular in this respect: many chronic affections are cured by increasing the actions of the vessels, particularly that chronic ophthalmia which consists in relaxation and debility of the blood-vessels of the albuginea of the eye. What then have we to do, but to stimulate and excite these vessels in the most easy and the most natural manner?

It is well known that when a puncture is made into circumscribed cavities, if union by the first intention does not take place, the consequence is an extension of inflammation from the puncture along the membrane lining the cavity; such takes place with an amazing rapidity in cases of puncture of the peritoneum, pleura, and in the membranes lining the large joints; and such an inflammation also takes place in the membranous bag containing the water of Hydrocele under the same circumstances. It is this inflammation ensuing upon a want of union, which is the most frequent cause of the cure of this disease, when such cure takes place after the simple puncture. Undoubtedly, in some cases where the Tunica Vaginalis and the Albuginea Testis are very much irritated during the evacuation, either by too much handling or other circumstances, these tender and delicate membranes will inflame too highly, and suppurate or slough, and thus produce a cure of which there are many cases in authors; but in the majority of cases of cure under these circumstances, it is effected as in the cases related in

the commencement of this paper, by a slight and mild inflammation of the Tunica Vaginalis Testis alone. The object then will become that of preventing the opening in the Tunica Vaginalis from healing by the first intention, and also to do this in such a manner as to avoid the danger of supuration and sloughing; for this purpose, since it is advisable that the palliative operation should always be performed once previous to attempting the usual means for a radical cure, I would recommend a slight extension of it as in the cases above related, viz. to bring gently forward by means of a small hook that portion of the Tunica Vaginalis presenting at the external opening, and to cut away the portion thus hooked with a pair of scissors, afterwards closing the external opening with adhesive plaister. By which means a moderate inflammation of the membrane will be ensured, and I am led to hope the success will be frequent.

In the three cases related, the sac was not much thickened, a material circumstance to notice, because in old and very large Hydroceles, and where the sac is much thickened and indurated, a stimulus much greater than the means here proposed will produce is required, and hence it will be necessary to guard against disappointment, by putting the proposed plan in execution only where there is a probability of success, which

is in moderate sized cases, not too old, and where the sac is not too much thickened and indurated.

The following case is subjoined, because the plan was put in execution under the most unfavourable circumstances of bad health, and it shews that although the symptoms ran high, they were not so troublesome as those which would have succeeded any other operation, nor indeed does it appear that any other mode would in this case have been admissible at all.

A man about forty-five years of age had been under my care some time for affections of the chest, attended with cough, large mucous expectoration and dyspnoea; his countenance was very sallow; he was low-spirited, and could not sit much up, when he shewed me a Hydrocele of the left side of the scrotum. As I was very averse to the making an opening, he was advised to suspend the part and wait patiently. Understanding, however, that the collection was watery, he became resolute to have it discharged, and in compliance with his earnest request more than my own inclination, a puncture was made with a lancet; betwixt ξ_{ij} and ξ_{iv} of straw-coloured fluid evacuated, and a small portion of the Tunica Vaginalis cut away. This was succeeded by an inflammation of the substance of the testicle itself: he was advised to support the part and keep a recumbent

position, which he did for three weeks; the inflammation of the testicle was very violent and painful during its continuance, and yielded slowly to the ordinary treatment. After the pain was gone, it continued obstinately enlarged and hard many months, so as to require a constant suspension. In this state he returned to his customary occupation, and the tumefaction gradually subsided. During the confinement, and the violence of the affection of the testicle, the irritation of the chest gradually subsided and disappeared, and I was very much induced from its previous obstinacy to conclude, that this affection of the testicle had a powerful effect in superseding the troublesome and formidable disease in the breast. In the beginning of August, eighteen months after the puncture, I examined the testicle, and found it a little larger than the opposite one, but no other perceptible difference from nature, excepting an evident adhesion of the Tunica Vaginalis to the Tunica Albuginea.