

**An essay on the cure of the hydrocele of the tunica vaginalis testis / By Joseph Else.**

**Contributors**

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On the CURE of the

H Y D R O C E L E

O F T H E

T U N I C A V A G I N A L I S T E S T I S.

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By J O S E P H E L S E,

SURGEON to St. THOMAS's Hospital.

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L O N D O N :

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## P R E F A C E.

**I**T may appear superfluous, at this time, to publish an Essay upon the Hydrocele of the Tunica Vaginalis, as it has been treated of by so many eminent writers amongst the moderns, who have availed themselves of every thing valuable on the subject to be found in the antients. But whoever considers all the methods of cure prescribed in books, will find their several patrons are obliged to confess, that they are troublesome and uncertain, nay sometimes dangerous ; infomuch that an author, whose character deservedly stands high in the pro-



feſſion, has the following words, when ſpeak-  
 ing of this diſorder : “ Upon the whole it ap-  
 “ pears to me, from what I can learn in the  
 “ writings I have examined, that there are  
 “ not yet a ſufficient quantity of obſervations,  
 “ to eſtabliſh an unexceptionable method of  
 “ performing this operation \*.”

If therefore a method of cure can be point-  
 ed out for this diſeaſe, which may be under-  
 taken with eaſe and ſafety to the patient, I ap-  
 prehend it will be an offering neither unac-  
 ceptable nor uſeleſs to the public. Such I  
 eſteem that, which I recommend in the fol-  
 lowing ſheets. I pretend not to be the in-  
 ventor; nor can I with certainty ſay, who firſt

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\* Sharp's Critical Enquiry, 3d edit. p. 92.



brought it into use : but it has been long practised in St. Thomas's Hospital ; and all the merit I can claim, if there be any, is that I have considered, and endeavoured to explain the reasons, which render this process preferable to any other ; and, from the experience of several years, can add my own testimony to its ease, safety, and efficacy.

Although it has been practised in the presence of so many witnesses, it appears however to be known to very few \* ; and several

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\* “ We should likewise have been informed of the different success from the use of caustics and the knife, both of which are recommended for the radical cure ; but there are few or no accounts of this nature.” Sharp's Critical Enquiry, 3d edit. p. 91.



reasons may be given why it has not been more spoken of : Thus, though the palliative cure is seen almost every day in a large hospital, yet the radical cure is by no means so frequent. The disease not being painful nor inconvenient till it comes to a certain size, and even then being capable of temporary relief, with so much ease by the lancet or trocar, makes many persons endure it, rather than submit to the trouble and confinement necessary for a radical cure : Again, the generality of those who have been witnesses to it, when performed, consisted of such persons, who attended the hospital only for a short time ; and afterwards settled in the country, where they would have few opportunities of practising it ; and perhaps not having seen more than one or two cases, had not courage enough to adopt the method, because writers of great estimation had declared against the use of the caustic in general ;

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though



though the process now recommended is exceedingly different from what is described in books. But these impediments might, I am persuaded, have been overcome, and the knowledge of it rendered general, if those gentlemen, who were best qualified to give an account of it, could have conquered their aversion of submitting to the public eye their sentiments on this, and other subjects of the same nature.

To examine carefully into the opinions of the latest writers on this subject was absolutely necessary, both to shew the inconveniencies of the methods they prescribe, and to answer any objections to what is now recommended, which might be drawn from their writings: In doing which, I have for the most part made use of their own words.

This



This must apologize for the number and length of the quotations. Where my opinion differs from those for whom I have a deserved esteem, I hope I have expressed myself with that candour, which will shew that truth was the only object of my pursuit.



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On the C U R E of the

H Y D R O C E L E

O F T H E

TUNICA VAGINALIS TESTIS.

**T**HE Hydrocele of the Tunica Vaginalis is a preternatural accumulation of a watery fluid between that membrane and the Tunica Albuginea, which immediately invests the vascular substance of the Testis.

This disease is said to arise from a variety of causes. Too great laxity of the lymphatic vessels is assigned as one cause ; a defect in the absorbent system as another ; and a stimulus for a third :

B

perhaps



perhaps at different times all these may concur to form it.—I might add, that probably it may happen sometimes from the rupture of a lymphatic vessel. I have known some patients, who affirmed that they have sensibly felt something burst within the Scrotum; after which a Hydrocele of the Tunica Vaginalis has begun to form \*.

The celebrated professor Morgagni supposes the disease produced by Hydatids forming within the Tunica Vaginalis, on the body of the Testis, and on the Epididymis; which bursting discharge their

contents

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\* A gentleman had a Hernia Humoralis, for which he was attended by a surgeon, who, as he informed me, fomented him twice a day for a long time, but never suspended the Scrotum. The Testis for three months continued greatly enlarged, after which time it was reduced nearly to its natural size; but as he was sitting one night in the gallery at the play, when the house was exceeding hot, he perceived something snap, as he expressed it, within the Scrotum, and thought himself immediately sensible of an extravasation on the inside: being much alarmed, he came out of



contents within the coat, and so produce the accumulation. The appearances, which Morgagni describes, and supposes to be the remains of ruptured Hydatids, I took notice of several Years ago in found Testicles, where no Hydrocele had ever existed: from which time I have never failed seeing, and often demonstrating them in all the adult Testicles I have examined. And since the publication of his work, *De Causis & Sedib. Morbor.* I have looked for them in subjects of all ages, and have hitherto found them as constantly in infants, as adults. They are rarely more than one in number.

The symptoms, by which this disease may be distinguished from others affecting the Scrotum,

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of the house, and examining the Scrotum, found it, as he had imagined, increased in size.—This swelling gradually advancing, produced a Hydrocele of the Tunica Vaginalis, for which I tapped him several times, and at last radically cured him by caustic.

In like manner patients are sometimes sensible of the ruptures of large sanguineous veins. See *London Medical Observations*, vol. 3d. art. 19.



are described in so masterly a manner by the latest writers on this subject, particularly by our own countrymen \*, that it is unnecessary for me to point them out. I will only observe, that no rule hitherto laid down will afford us an infallible criterion of its difference from some other disorders of the Scrotum. Hence surgeons of the very first rank have at one time mistaken the Hydrocele for the schirrous Testicle; and, at another, the schirrous Testicle for the Hydrocele. I have seen more than one instance, where, after due consultation, castration has been advised, upon the presumption of a schirrous Testicle; and where the discovery was sometimes made before, but indeed sometimes not till after the operation was compleated, that the Testicle was found, and that the deception was owing to a thickening and induration of the Tunica Vaginalis distended with water.

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\* Sharp, Douglas, Pott.



As the Hydrocele is so liable to be mistaken for a schirrous Testicle, I shall mention two or three of its most distinguishing signs.

First, The Spermatic Cord is in a sound state in the Hydrocele ; it is generally thickened and diseased in a schirrous Testicle.

Second, A fluctuation may be perceived by an alternate pressure with the hands on the lower and anterior part of the Scrotum in the Hydrocele ; or an undulation may be felt upon patting with one hand, whilst the other is applied to the opposite side of the tumour.

Third, The surface of the Hydrocele is generally smooth, the body of the Testicle lying hid in the water.—Hardness with inequalities discover the schirrus.

The Public is much indebted to Mr. Sharp \*

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\* Operations of Surgery, p. 34.



for his instructions concerning this disease ; and I think, if his division of the Hydrocele into two species only had been adhered to by later writers, it would have made the knowledge of every species of watery tumour in the Scrotum more easily attainable by students. As collections of water do not form more frequently in the Spermatic Cord, cellular substance of the Scrotum, outer surface of the Tunica Vaginalis, and within the body of the Testis, than they do in the Thorax, Abdomen, Pelvis, or almost any other part of the body, there seems to be no reason to divide more minutely those of the Scrotum, as Mr. Sharp's division was fully sufficient for every practical purpose.

But my principal design, in this Essay, being to treat of the cure of the disease, I shall hasten to the consideration of the several methods prescribed by the moderns, particularly by the writers of this country ; such are the tent, the seton, incision, excision of the Tunica Vaginalis, and the application of a caustic.—Every one of which was however in use among the ancients.

With



With respect to the first : A tent is introduced through a small puncture of the Tunica Vaginalis, with a view of exciting such a degree of inflammation, as will produce an adhesion of the Tunica Vaginalis to the Testis ; but if no other objection could be brought against this method, it is sufficient to observe, that those who have recommended it, admit that it is not always effectual. Besides, I hope to make it appear probable, that when it does accomplish the cure, it is not in the way which has been hitherto supposed.

From the account given of the seton, it seems preferable to the tent ; but it is allowed not to be a perfect method, and should be used only where the surgeon may suppose the other methods of incision and caustic would be improper ; or where the patient refuses to submit to them : at the same time it is owned, that ill consequences do sometimes attend it \*.

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\* Pott on the Hydrocele, p. 178 and 179.



The method of cure by incision is one of the most easy operations in surgery, consisting only of a simple dilatation of the Tunica Vaginalis from one extremity to the other, unless the Vaginal Coat should be found thickened and indurated; in which case, it is recommended to cut away as much as can be done conveniently \*.

If this operation was followed with no worse symptoms than commonly attend castration, it would perhaps be preferable to any other method.

The greater number of such authors as have fallen into my hands, content themselves with describing the method without informing us of

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\* Mr. Pott, in his Letter published at the end of Douglas's Treatise, says his method was to take away as much of the Tunica Vaginalis as he could with a knife, without making any exception: but in his own Treatise of the Hydrocele published afterwards, he follows Le Dran, and recommends the removal of the Cyst only when it is thickened.

the consequences. Those, however, who have performed it, give not the most favourable account of the symptoms attending it.

Wifeman\* says “the patient should be of a tolerable habit of body, and not in his declining age; and afterwards wishes us to consider the age and habit of body, before we begin this way of cure; for such patients are subject to colics, fevers, singultus, &c. and, if the native heat be weak, to gangrene.”

Mr. Cheselden† says the disease is rarely cured without opening the cavity, where the water is contained. “This,” he adds, “I have done and seen done several times; but never thought the cure worth the trouble and pain the patient underwent.”

\* Wifeman's Surgery, chap. 23.      † Anatom. p. 264.



Heister says the curatio perfecta (which implies the incision) confines the patient several weeks to his bed, and is both painful, and in some measure dangerous.\*

Mr. Warner says he has never seen any fatal consequences arise from the incision; but advises that it should only be practised upon those who are of a good habit of body, and who have not exceeded the middle stage of life†.

Mr. Sharp, in his Treatise on the Operations of Surgery, says, that the incision, and he includes also the caustic, is attended with so much danger, “that, notwithstanding its success in the end,” he believes, “whoever reads the cases he adjoins  
“will be apt to discard the method, and abide

\* Surgery, part 2. sect. 5.

† Warner's Cases, No. 43. 3d Edit.

“ rather by the palliative cure.” In subsequent editions he substitutes the word trouble for danger\*.

In one case related of a healthy man of forty-four years old, it appears, that on the night of the operation he grew feverish, had violent pain in his back, and for four days continued in a most dangerous condition, till the fever tended to a crisis by the suppuration of both wound and testicle; which forced him to open the body of the Testis. He adds, that after the cicatrization of the wound he was restored to perfect health†. He does not indeed say that the function of the Testis was continued; for I think that must probably be destroyed, when matter was formed in the body of it, and that opened for its discharge.

\* Ed. 6. p. 41.

† Ib. p. 42.



From his second case it appears that the operation was performed on a boy about eight years of age, who narrowly escaped with life. The symptomatic fever attending terminated at last in an abscess of the Scrotum\*. He says he has known a few examples in its favour, but by no means enough to warrant the recommendation of it, unless to such patients as are inconsolable under the distemper, and are willing to suffer any thing for a cure†.

Mr. Pott observes, “ that Paulus Ægineta,  
 “ Albucasis, Severinus, and many others of the  
 “ best ancient writers, have given an account of  
 “ this operation; and it has at all times been  
 “ practised by some, though it has generally been  
 “ decried and dreaded‡.” He adds, “ that the

\* Ed. 6. p. 42.

† Id. p. 46.

‡ Treatise on the Hydrocele, p. 160.



“ membranous structure of the parts, on which  
 “ the wound is inflicted, their continuation from  
 “ the Peritonæum, and the great irritability of  
 “ some of those, which are necessarily laid bare  
 “ and put under the necessity of receiving dres-  
 “ sings, must occasion pain and a symptomatic  
 “ fever\* ; and that the operation is, or ought to  
 “ be, confined to the young and healthy†.”

“ The general induration of all the parts about  
 “ the thick tumid lips of the incision, and the  
 “ general inflammatory enlargement of the Scro-  
 “ tum, have for the first four or five days a dis-  
 “ agreeable appearance ; and may, if neglected  
 “ or mis-treated, prove very troublesome, or even  
 “ hazardous‡. That it is sometimes attended with

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\* Treatise on the Hydrocele, p. 165.

† Id. *ibid.* Notwithstanding these conditions were com-  
 plied with, yet in one of Mr. Sharp's patients, aged 44,  
 the Testicle suppurated, and he had like to have lost his life.  
 Another, a boy of eight years, narrowly escaped.

‡ Pott, *ibid.*

“ trouble-



“troublesome symptoms is beyond all doubt;  
 “and so is the method by caustic: I cannot say  
 “that I have never seen it prove fatal; nor can  
 “that be said of any operation of consequence\*.”  
 In the following page, he observes, “that this  
 “method can never be said to be totally and  
 “absolutely void of some danger, and that it  
 “bears the appearance of an operation of some  
 “severity†.”

After these quotations from Mr. Pott, it will  
 be right to set forth what he alledges in favour  
 of this method: He says, “I am very confident  
 “that the ills attending it have been much ex-  
 “aggerated; that under proper cautions and re-  
 “strictions, it will be found to be practicable  
 “with perfect safety; and that it ought by no

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\* Pott's Treatise on the Hydrocele, p. 172.

† Ib. p. 173.



“ means to be laid aside\*. That when the febrile  
 “ symptoms are appeased, and a kindly suppura-  
 “ tion begun, let the surgeon have patience,  
 “ and not by an over-officiousness, or by improper  
 “ dressings interrupt nature in what she is about ;  
 “ let him by warm fomentations keep the parts  
 “ clean and perspirable ; let him dress the wound  
 “ with a small quantity of soft, easy, digestive  
 “ applications ; and covering the whole Scrotum  
 “ with a soft warm poultice, suspend it in a  
 “ proper bag, and he will in general soon see  
 “ a favourable change in all the appearances ; he  
 “ will see the inflammation disappear, the tumour  
 “ resolve, and all the tumefaction in due time  
 “ subside. But if he neglects these general cau-  
 “ tions, and, under a notion of assisting digestion,  
 “ goes to work with precipitate and other irri-  
 “ tating dressings, the face of things will not be  
 “ so agreeable ; the tumour will not subside, and

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\* Pott's Treatise on the Hydrocele, p. 160.



“ he will continue, or rather create a painful in-  
 “ digested sore, with all its consequences; but  
 “ for which he only is accountable\*.” He ob-  
 serves, “ that some writers of very good character  
 “ have appeared very averse to this method, and  
 “ have ascribed to it such symptoms in general, as  
 “ are indeed very alarming; but which do not  
 “ occur, unless the operation be performed im-  
 “ properly, or on subjects unfit for it; that he  
 “ has practised it very often, and does not re-  
 “ member to have seen any ill effects from it  
 “ more than two or three times†; and that he  
 “ has so often made the experiment, and with  
 “ such success, that he cannot hesitate to assert,  
 “ that under the necessary restraints, regarding  
 “ age, habit, state of the disease, &c. it is a very  
 “ useful operation; and is inclined to believe,  
 “ that, besides the choice of improper subjects,

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\* Pott's Treatise on the Hydrocele, p. 166 & 167.

† Ib. p. 160.



“ or in improper circumstances, surgeons have  
 “ been unnecessarily alarmed at what would not  
 “ in other cases have alarmed them ; or that,  
 “ not being sufficiently apprehensive and attentive,  
 “ they have suffered their patients to get into  
 “ circumstances of hazard, which are not justly  
 “ chargeable on the operation merely, and  
 “ would not happen under more careful manage-  
 “ ment\*.”

The radical cure by excision means the cut-  
 ting away the whole Tunica Vaginalis, whether  
 it be in a sound or a diseased state. For many  
 who prefer simple incision as the radical cure,  
 direct so much of the Tunica Vaginalis to be  
 removed as shall appear much thickened or in-  
 durated.

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\* Pott's Treatise on the Hydrocele, p. 160 & 161.



Upon a presumption then, that the ill symptoms which attend a large wound of the Tunica Vaginalis arose from the inflammation and supuration of that membrane, it has been proposed to cut it all off, in hopes of removing entirely the cause of the mischief; and to support this practice great pains have been taken to prove the analogy between the Cysts of common encysted tumours, and the Tunica Vaginalis of the Testicle in this species of Hydrocele\*, but, in my opinion, without the success necessary to warrant the conclusion drawn from it.

Mr. Douglas is the only modern surgeon who has ventured to propose this method; but from his account of the operation it appears to be exceedingly tedious and painful; and some, who

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\* Douglas on the Hydrocele, chap. 3.



have seen it performed, have assured me that it seemed cruel to a degree which shocked them.

Upon examining the cases, which are offered to recommend this operation to us, we find that pain in the loins came on very early, together with great swelling of the Scrotum, and a very alarming fever; that the Testicle swelled, and in one case projected out of the wound, and in another became livid, required to have the body opened, and was attended with an exfoliation of the Albuginea\*.

Mr. Warner never saw this method put in practice but once, and then the patient died of the fever, which was immediately occasioned by it†.

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\* Douglas on the Hydrocele, case 1.

† Warner, case 43.



I shall next consider the method by caustic as it has been commonly directed. The most eminent of the moderns agree in recommending a large caustic to be laid upon the anterior part of the Scrotum.

Wifeman applied a caustic according to the length of the part, and the next day divided the Eschar\*.

Heister advises a large caustic, but does not mention the division of the Eschar†, if it has penetrated.

Palfyn says, that in a double Hydrocele he laid a large caustic on each side, and afterwards opened

\* Wifeman, ch. 23.

† Heister, part 2. sect. 5.

the Eschar and filled it with doffils dipped in brandy\*.

Monro, as well as Heister, omits mentioning the size of the caustic ; but it is evident from his words, that he designed it large ; for he says he would prefer “ the application of the caustic “ along the tumour to destroy the skin, previous “ to an incision into the Sac ; for, by the caustic, “ one has a larger opening into the integuments, “ than by incision†.”

Mr. Sharp says that he laid on the anterior and upper part of the Scrotum, a caustic about six inches long and one broad, and discharged the water on the day following by a small puncture‡.

\* Palfyn Anatomie Chirurgicale, tome seconde, ch. 20.

† Medical Essays, vol. 5. art. 22.

‡ Operations, ch. 9. case 3.



Dionis advises a caustic to be applied the length of the Scrotum, and as soon as it has had its effect, to open the Eschar during its whole extent\* to the bottom of the Scrotum.

Mr. Pott's description of the method by caustic is as follows : “ A piece of the common paste  
 “ caustic, rather less than a finger's breadth, properly secured by plaster, is applied the whole  
 “ length of the anterior part of the tumour,  
 “ which will necessarily make an Eschar of proportional size ; when this Eschar either casts off,  
 “ or is divided, an opening of nearly the same  
 “ length and breadth is thereby intended to be  
 “ made into the cavity of the Tunica Vaginalis  
 “ Testis ; by which means an opportunity is  
 “ given to the surgeon, to apply such dressings to

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\* Demonstrat. 4th.



the inside of the said Tunic, as shall by the generation of new flesh fill up and abolish its cavity\*.”

Mr. Douglas has published Mr. Baker's method of cure by caustic, which the latter has always practised; but having frequently seen it myself, and conversed with Mr. Baker on the subject, I will mention it afterwards.

We will now consider the consequences which have been said to follow this method of obtaining the radical cure, with the objections which have been raised against it; so that a judgment may be formed how far they are obviated or prevented by the particular mode which will be recommended.

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Pott on the Hydrocele, p. 155 & 156.



Wiseman seems to think that the symptom attending the caustic and incision are nearly equal and his practice was conformable to this opinion ; for in two patients whose cases he relates who had an Hydrocele on each side of the Scrotum, he performed the cure in one by caustic and in the other by incision, and says of both methods what I mentioned before, “ that such patients are subject to colics, fevers, singultus and, if the native heat be weak, to gangrene.”

Garengéot condemns the use of the caustic\* tho’ he says most authors declare in favour of it—His first reason is “ that all caustics act slowly “ and that during their action the liquid, which “ we suppose already corrupted, will become more “ so.” But I believe no advocate will be found

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\* Garengéot *Traité des Operations*, ch. 6. art. 3.



to plead for a corrupted state of the liquid in an Hydrocele, at this time.

Secondly, “ he thinks the caustic cannot be “ confined to a certain space, but that it will “ spread further than the surgeon intended.”— It must be owned a difficult matter to confine a caustic upon the Scrotum, but it will be more easy to confine a small than a large one ; yet, if after proper precautions it should spread somewhat further than the surgeon intended, I apprehend no extraordinary mischief will ensue, if it does not come at the Testicle.

Thirdly, “ That notwithstanding the application “ of the caustic, the Eschar must afterwards be “ opened, and therefore it would be much better “ to use the instrument at first.”—If there was any real necessity for dividing the Eschar, there might be some weight in this objection ; but I hope to make it appear, that the cure may proceed equally well without that step.

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Fourthly,



Fourthly, “ That the potential Cautery dissolving  
 “ and mixing with the fluid has rendered it caustic  
 “ and produced disorders almost irreparable.”—  
 Every day’s experience shews this to be void of  
 all foundation.

It appears from Mr. Sharp’s case of the caustic  
 that on the third day the patient began to have  
 great pain in the back and loins, and the Scrotum  
 became exceedingly inflamed and thickened, the  
 symptomatic fever running high ; in which state  
 he remained for a week. This was followed by  
 an ague, and the case at last terminated by two  
 imposthumations.

Mr. Pott has not given us any cases, where he  
 had performed the radical cure either by incision  
 or caustic ; but seems to think that the ill conse-  
 quences are much the same : he says, “ whoever  
 “ promises to perform or expects to receive :  
 “ radical cure by caustic upon much easier terms  
 “ than by incision, will most frequently be disap-  
 “ pointed ; that is, they will find the fever and  
 “ inflam



“ inflammatory symptoms full as high, and the  
 “ fore full as painful, in the one as in the other ;  
 “ and consequently all their care and attention,  
 “ to obviate mischief, full as necessary. Neither  
 “ is the necessary confinement, in general, at all  
 “ less in the one than in the other\*.”

Whoever considers what has been advanced in the foregoing pages concerning the different methods employed to obtain a radical cure of the Hydrocele of the Tunica Vaginalis Testis must observe, that all of them, when they proved effectual, have been generally attended with great inconveniences, and sometimes with very alarming danger, both to the functions of the diseased part, and to the life of the patient. These circumstances then have induced me to recommend a method, which I have used in St. Thomas's Hospital and elsewhere, and have seen practised

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\* Pott on the Hydrocele, p. 158.



for a number of years ; and which, from repeated experience and observation, I am fully convinced is very little embarrassing to the surgeon, and totally void of danger to the patient.

The method is this, to lay a small caustic upon the anterior and inferior part of the Scrotum, taking care to avoid the Testicle : a large caustic is quite unnecessary, and every advantage may be derived from one, whose Eschar will be no bigger than a shilling. The loose and pendulous situation of the Scrotum renders the application of a bandage so very inconvenient, that we cannot easily prevent the caustic from spreading somewhat : for this reason I cover no more than the size of a sixpence, on a presumption that it may make an Eschar as broad as a shilling, though it commonly makes one of the size of a half crown.

The intention is that it shall affect, and, if possible, penetrate through the Tunica Vaginalis ; so that the time it is suffered to lie on, is proportioned to the supposed thickness of the Cyst. It should never remain on less than five hours ;  
but



but if it be suffered twenty-four, it can do no mischief when properly guarded. On the removal of the caustic, digestives may be applied to the Eschar, or the common cataplasm of white bread and milk. The Scrotum must be suspended in a bag truss; and the patient had best be confined to his bed; though even this circumstance is sometimes omitted without detriment. Sometimes immediately after removing the caustic, sometimes within twelve or twenty-four hours, or even at the distance of two or three days, the patient begins to complain of pain in the Scrotum and Loins, has now and then some colic pains, the pulse a little quickened, and the tongue whitish. At different periods of time from the removal of the caustic, but generally within forty-eight hours, an alteration is perceptible in the Scrotum: The tumour upon grasping feels more tense and hard than it was before; and this hardness answers to the figure of the Tunica Vaginalis in its whole extent; and a little attention will convince an observer, that it is this membrane alone which gives the sensation of tension and hardness, and no other part.

The



The colic pains and febricula seldom continue more than twenty-four or forty-eight hours ; and very frequently are so inconsiderable, as to require neither evacuation, nor any internal medicines. If however the pulse is quicker than common, the pain of the back, and the colic distressing to the patient, they will be speedily removed by once or twice bleeding, and injecting one or two clysters. As soon as the pain of the back (except what arises from the weight of the Scrotum), the febrile heat and other symptoms are removed, for they commonly go off all together, the patient need no longer be confined to his bed, but may be suffered to get up and walk about the room, provided the Scrotum be suspended.

In a few days the Eschar of the Scrotum will loosen and come away, exposing to view the Tunica Vaginalis, which bears evident marks of its having been affected by the caustic, and prepared to slough off ; and when pressed with the finger, the undulation of the water may be felt within it. As the cure proceeds, the sloughy  
Tunica



Tunica Vaginalis will project more and more through the orifice in the Scrotum ; and when it appears ready to burst, it may be punctured with a lancet, and for this reason only, that it will relieve the patient from the weight of the tumour ; for no other advantage can be derived from it. If the water is discharged by a puncture, the Scrotum by degrees collapses, and the orifice in it is filled up with slough, which prevents the access of external air to the Testicle. These sloughs continue to come away with the dressings daily for about four, five, or six weeks, and in proportion to their discharge, the hard tumour of the Scrotum lessens. Upon casting off the last slough, the hardness is entirely gone, the wound immediately cicatrizes ; and the cicatrix, being about the size of a finger's end, adheres strongly to the body of the Testis, which has never come in sight, nor has had any application brought in contact with it during the whole process.

Whoever will carefully attend to the several appearances that accompany this method, must be satisfied that the caustic excites an inflammation of  
the



the Tunica Vaginalis, which spreads through the whole of it; in consequence of which, the entire membrane suppurates, and comes away in sloughs; so that whether we consider the Tunica Vaginalis as secreting or containing the fluid, the radical cure is equally performed; and whatever future accumulation of water may happen to form on that side of the Scrotum, it must be either of the Anasarcaous or Hydatid kind.

During the time I was with the late Mr. Girle, I laid a great number of caustics on hospital patients, for the radical cure of this species of Hydrocele; and have since used this method myself both in public and private, and can with great safety assert, that I never knew the febrile symptoms last three days, rarely more than twenty-four hours, and that the patient never felt very extraordinary pain, nor ever appeared in danger.

Dr. Huck, as well as myself, has heard Mr. Girle declare, that during nineteen years practice in St. Thomas's hospital, and a very extensive practice in private, he had continued to use it, and



and never met with one case, where he thought there was the appearance of hazard \*.

Mr. Baker's method differs very little from that which I have recommended; his caustics were larger, so that the Eschar would measure, in its broadest part, more than two inches diameter: this however was not what he chose, for he recommends the Eschar to be about the size of a half crown: he never punctured the Tunica Vaginalis for discharging the water, but suffered it to come away by degrees with the sloughs. He has assured me, that having been twenty-nine years surgeon to St. Thomas's Hospital, he had, during that period, used it both in public and private, had never seen any bad consequences from it, nor even cause to be alarmed at any ap-

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\* He told me, that he had met with two cases, where the sloughs, which were discharged, were of a beautiful red colour.



pearance of danger. That he has frequently performed it on both sides of the Scrotum, in people of all ages, and used it once in a merchant, who would not suffer himself to be confined, but went out daily about his business, from the application of the caustic to the cicatrization of the wound.

This method of cure I mentioned to my friend Mr. Way several years ago, since which he has practised it in Guy's Hospital, and never saw any mischief happen but once; and then the ills which arose were not chargeable on the operation itself.

I have advised that the caustic be laid upon the anterior and inferior part of the Scrotum; and there is this good reason for making that the place of election, because the discharge of the sloughs will be facilitated by the dependence of the orifice: but if any particular circumstances should make it improper, the advantage thereby obtained is not absolutely necessary to success, as will appear by the following case.



An eminent laceman was affected with an Hydrocele, for which I had occasionally tapped him for three or four years ; but being very wretched under his complaint, he determined to undergo the radical cure.

Hydroceles of the Tunica Vaginalis commonly approach to an elliptic form, and their direction is perpendicular, with one extremity turned upwards and the other downwards ; but in this patient it was horizontally oblong, with one extremity pointing forwards and the other backwards, resting on the perinæum. The particular figure of it here was, in all probability, derived from its having been constantly supported in a bag-truss from its first appearance : The Testicle lay at the bottom of the Scrotum, and could easily be felt. When the radical cure was determined upon, Mr. Girle and Dr. Hunter were desired to consult with me, and fix upon the proper place for the application of the caustic. It was impossible to lay it on the bottom of the Scrotum without injuring the body of the Testis : it was next proposed to



lay it on the posterior part of the Scrotum ; but on examination we could feel the spermatic vessels in the way : we therefore determined to apply it on the superior and anterior part ; which was accordingly done, and no inconvenience ensued. On puncturing the Eschar at a proper time, the water was let out, the Scrotum soon contracted, and the sloughs were discharged, as easily as they would have been had the caustic been laid on the lower part of the Scrotum ; so that though he appeared in his shop a fortnight before the wound was healed up, yet he was perfectly well in less than six weeks from the application of the caustic.

It will not be amiss now to consider why the symptoms, which attend the common method of using the caustic, are ~~so~~ much more unfavourable than in the method I have recommended.

One reason may be the great size of the caustic, which it will be very difficult to prevent from affecting the Testicle, as has been already observed.

Secondly,



Secondly, The admission of air to the inside of the Tunica Vaginalis, is probably another.

But Thirdly, The principal cause I believe to be the exposure of the Testicle, and its being unavoidably brought in contact with the dressings, and other extraneous bodies.

It seems to be the general opinion of the latest writers, and indeed of most practitioners, so far as I have been able to collect, that the bad symptoms attending the common method of caustic and incision are derived from the inflammation and suppuration of the Tunica Vaginalis \*; but they  
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\* Mr. Sharp denies, that the unfavourable symptoms can arise from the external side of the Tunica Vaginalis being exposed to the air, “ for he has often seen the whole Scrotum separating in a gangrene from the Tunica Vaginalis, and leaving it naked a great many days without any ill effect †.” But the case may differ widely when the air

† Sharp's Operations, edit. 6th, p. 47.



pay little attention to, or scarce mention the Testicle, though it was once a peritonæal Viscus, and

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has access to its inside; and perhaps the danger, which followed the application of the caustic to one of his patients, might be owing to the admission of air through the punctured Eschar, as the tension of the inflamed tunic would resist the contraction of the Scrotum. And in the instance where he injected spirit of wine, there can be no doubt but it produced the inflammation; but it is very difficult to determine whether the inflammation arose from the affection of the Tunica Vaginalis, or the Testicle.

The sloughing away of the Scrotum only lays bare the outer surface of the Tunica Vaginalis; the Testicle remains covered. This therefore does not prove that no ill symptoms follow, when that coat is laid open, and its inner surface and the Tunica Albuginea are exposed. If the Testicle is found diseased during the operation of incision, and is extirpated, the wound in general heals kindly without any bad symptoms; which would lead us to suppose, that the ill symptoms arose from suffering either the inside of the Tunica Vaginalis, Tunica Albuginea, or both to remain exposed and in the way of irritation: and whoever considers how exquisitely sensible the Tunica Nervea is supposed to be, will think it more probable, that the mischief arises from that coat than the other.



has within these few years been found to be covered by a part which was \* originally a process of the Peritonæum: yet at the same time the Tunica Albuginea is asserted to be very irritable as well as acutely sensible†. And the appearances which quickly follow the use either of a large caustic and opening the Eschar, or cutting the whole length of the Tunica Vaginalis, or the excision of the Cyst, corroborate this opinion; for the Testicle becomes swelled, sometimes to four times its natural size‡, is liable to have its

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\* The Tunica Vaginalis.

† Monro says the Testicle will not bear irritation. Ed. Med. Essays, vol. 5. art. 22. And Mr. Pott, the best advocate for incision, informs us, “ that the great irritability of some of those parts, which are necessarily laid bare, and put under a necessity of receiving dressings, must occasion pain and a symptomatic fever.” Pott on the Hydrocele, p. 164.

‡ Douglas.



Tunica Albuginea slough away\*, and not unfrequently to suppurate†.

Tho' the external air may co-operate in producing these bad effects, yet I imagine the principal cause to be the irritation which the Testicle must necessarily undergo from the application of dressings. I once saw a surgeon perform the operation of castration, when, finding the Septum affected by the cancerous virus, he thought proper to remove it; in doing which he opened the Tunica Vaginalis of the opposite side, by which means the found Testicle appeared loose and rolling in the wound: not chusing to have it remain in that situation, he entirely covered it by a flap of the Scrotum, and secured it with two stitches; so that the Testicle was entirely hid,

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\* Douglas, Gooch.

† Douglas, Sharp.



and the wound healed up without any one bad symptom.

Almost all the later writers are of opinion, that whether the tent, seton, caustic or incision are used for the radical cure, the effect is the same, and the future accumulation prevented by these methods exciting an inflammation, which produces an adhesion between the Tunica Vaginalis and Tunica Albuginea, and thus obliterates the cavity, in which the fluid was deposited. Tho' the means are somewhat different, yet the intention is the same, when Monro directs the Canula of the Trocar to be left in the wound, that by its extremity rubbing against the Testicle it may excite an inflammation, and so produce a cohesion between the Tunica Vaginalis and Albuginea\*.

Mr.

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\* " Considering how readily contiguous inflamed parts  
 " grow together, and how many instances there are of peo-  
 " ple obtaining a radical cure of this Hydrocele by inflam-  
 G " mation



Mr. Sharp attributes the perfect cure to the universal adhesion of the teguments of the Scrotum to one another and to the Testicle itself\*.

Mr. Warner mentions a case where he accomplished the radical cure by means of a tent introduced thro' a puncture made by a lancet: a dif-

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“ mation coming on the parts, it would seem no unreasonable practice to endeavour a concretion of the two coats of the Testicle, when they are brought contiguous, after letting out the Water thro' the Canula of a Trocar, by artfully raising a sufficient degree of inflammation.”  
Ed. Med. Essays, vol. 5.

\* His words are, “ Tis worth observing, that upon examination of the several Hydroceles, it appeared evidently their cure was wrought by an universal adhesion of the Testicle to the Tunica Vaginalis, and again of that coat to the parts enveloping it\*.” And the same doctrine he repeats in his Critical Enquiry†.

\* Sharp's Operations, p. 46.

† Critical Enquiry, p. 87.



charge came on the fourth day, which was followed by an abscess, and that being opened the discharge decreased and continued to do so till the wound was healed, which happened in a few days afterwards: and he adds, “ that the coats  
“ of the Testicle and Testicle itself formed an  
“ adhesion with each other\*.”

From what Mr. Warner says I am much inclined to think, that when the tent cures, it acts in the same way as the caustic does; that is, by its means an inflammation is excited in the Tunica Vaginalis, which extends quite thro’ it, and renders it sloughy; but the orifice in the Scrotum being small, the sloughs cannot make their way; in consequence of which a suppuration of the Scrotum comes on, and the greater part of the

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† Warner’s Cases, No. 42. p. 258.



Tunica Vaginalis is rotted down and mixed with the pus, before the abscess is opened\*.

Mr. Douglas seems to think that the cure may be produced several ways, when the tumour is recent; and that the Tunica Vaginalis may be brought to cohere to the Testicle: That, in consequence of the caustic, the cure may be said to consist in the inflammation raised by it on the Tunica Vaginalis, which, after the mortified part

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\* I am apt to imagine that the simple puncture more frequently produced a radical cure formerly, than it does now, from the manner of doing it. After puncture with a lancet, a canula was introduced to discharge the whole of the water. Now as the orifice in the Tunica Vaginalis would, in a small puncture, be liable to slip away from the orifice in the Scrotum, to prevent any difficulty on this occasion the puncture was directed to be made larger than we now make it; by which means air getting to the Tunica Vaginalis might produce the inflammation and abscess, which brought about the radical cure.



is thrown off, collapses round the Testicle, and prevents any fresh collection of water within it; and if the Sac is thin, that it may suppurate; but that in an old Hydrocele it is very seldom if ever digested, being left behind in a collapsed state round the Testicle. He thinks it may admit of a doubt, whether an inflammation, however excited, can bring a thick indurated Cyst, such as the Tunica Vaginalis becomes in an old Hydrocele, to adhere; in proof of which he mentions a case, where a caustic had been applied a fortnight before he saw it, and where the swelling, pain, and tension were so great as made the surgeon justly suspect a Schirrus; but upon dilating the Scrotum in its whole extent, the Tunica Vaginalis was seen to cohere very firmly with the integuments, but there was not the least adhesion betwixt the Cyst and Testicle in any part.

In the several methods which Mr. Pott has used, he declares, “ the point to be aimed at, is  
 “ to excite such a degree of inflammation both  
 “ in the Tunica Vaginalis and Tunica Albuginea,  
 “ as



“ as shall occasion a general and perfect cohesion  
 “ between them\*.”

What effects may have been produced by the  
 tent, canula, injection or incision, I will not pre-  
 tend to say, because I have rarely seen them put  
 in practice : but the method by caustic, which I  
 have recommended, does not appear to me to  
 cure by producing a cohesion of the loose and  
 and immediate coats of the Testis, (nor do I think  
 the other methods do,) but by exciting such a  
 suppuration of the Tunica Vaginalis, as will  
 cause the whole of it to slough away.

The long continued discharge of the sloughs  
 after the Eschar of the Scrotum has fallen off,  
 the hardness of the thickened inflamed Tunica  
 Vaginalis lessening in proportion to the discharge

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\* On the Hydrocele, p. 176.



of the floughs, and the immediate cicatrization of the wound, as soon as the floughs have ceased to come away, together with the laxity of the Scrotum afterwards, will satisfy any person that no adhesion has taken place with regard to the Testicle; for no indurated body can be found within the Scrotum, however thickened the Tunica Vaginalis might have been felt before the operation. Upon the most careful examination of the Scrotum after the cure by a small caustic, I never could perceive any adhesion of the teguments to the Testis; but in that particular spot where the caustic was applied, and there indeed it was pretty strong—And I think a careful attention must convince any unprejudiced person that Douglas's notion was groundless, when he supposes, that, after the use of the caustic, a part of the Tunica Vaginalis remained collapsed about the Testicle.

In the foregoing pages, I flatter myself I have given the full weight to every objection that can be raised against the use of the caustic in this disease; some I have occasionally answered as I proceeded,



ceeded, and will now endeavour to obviate such as I have not yet particularly considered.

It has been said, that *the caustic does not always succeed*. But the same may be urged against the incision, or any other method which has been proposed except the excision. Such instances however are very few, and the want of success was probably not to be imputed to the method: but supposing it true, it cannot be denied that the caustic is as certain as any other. I myself have never known one instance of its want of success; and I think it highly probable, that whenever it reaches the Tunica Vaginalis it is infallible.

Mr. Baker informed me that he recollected two cases where it had failed; but the caustic had penetrated thro' the Scrotum in neither of them. One was a double Hydrocele, where the caustic on one side produced a suppuration and discharge of the Cyst, but on the other did not reach the Tunica Vaginalis.—A second application of the caustic penetrated far enough, and produced a cure.

A gen-



A gentleman of the profession told me, that he applied it once on the recommendation of Mr. Girle, when it failed of success: but on reviewing afterwards notes, which he had taken on the subject, he found that he had not suffered the caustic to lie on so long as he had been directed.

Another objection is, that *the caustic very rarely penetrates thro' the vaginal coat; and when it does not, the Tunica Vaginalis must be divided in the same state and manner as if no caustic had been applied.*

Mr. Pott gives this objection its full force in the following words: "The preference which some practitioners give to this method (the caustic) has been upon a supposition, that a circumstance, which very seldom happens, will most frequently occur; I mean the penetration of the caustic thro' the vaginal tunic containing the fluid. I will not say that the caustic never does, this but I must say that I have very seldom seen it do so. If the tumour be very large and full, the containing parts very much



“ on the strefs, and the skin and dartos very  
 “ thin, the caustic may now and then penetrate  
 “ thro’ to the vaginal coat, but this, whatever  
 “ may be thought or pretended, very seldom  
 “ happens. All the difference between the two  
 “ methods (caustic and incision) will then amount  
 “ to this, that in the former the skin being morti-  
 “ fied, the patient is freed from a part of his  
 “ apprehension at its being cut ; and the surgeon  
 “ fancying that his Escharotic has gone through  
 “ the vaginal coat, will divide it as a part of the  
 “ Eschar ; but a more careful examination of  
 “ what he is about, at the time of such operation,  
 “ would convince the latter that he divides the  
 “ bag unaltered by the caustic\*.”

I do agree with Mr. Pott that the caustic does  
 not always penetrate quite through the Tunica

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\* Pott on the Hydrocele, p. 156 & 157.



Vaginalis; but I believe if it extends far enough to affect its external surface, it will produce an inflammation, which will extend through every part of it, and cause the whole Tunic to slough away.

An accident once convinced me of what Mr. Pott alludes to, relative to the apparent sound state of the Tunica Vaginalis sometimes after the action of the caustic.—When a very young practitioner, I applied the caustic to the Scrotum of a private patient labouring under a Hydrocele of the Tunica Vaginalis. As the integuments and Sac both appeared thin, I suffered it to lie on only four hours; on its removal I did not like the appearance of the Eschar, and feared the caustic had not penetrated far enough. In order to determine how far it had gone, I pushed a lancet gently into the Eschar, which passed thro' the dead part of the Scrotum without resistance; but having done this, I thought I felt underneath the Tunica Vaginalis sound, and as far as I could judge by the touch, no way altered. This circumstance alarmed me much, as I feared the



patient would have been subjected to the uneasiness of a second caustic: but, in less than twenty-four hours, I was relieved from my anxiety by perceiving a considerable tension of the Tunica Vaginalis, and observing the other symptoms, which indicate such an inflammation of the vaginal coat, as will produce its suppuration, and, in consequence of that, the radical cure. Accordingly the patient received a radical cure in less than six weeks, tho' the fever and colic pains were more considerable than they commonly are, but never so violent as to make me apprehensive for his welfare.

From the appearances I have mentioned, I am satisfied that the penetration of the caustic quite through the Tunica Vaginalis is not essentially necessary for the cure. Nor indeed can there be any reason why a surgeon, who is persuaded of the superior advantages of the method by small caustic, to that of incision, should think of dividing the Tunica Vaginalis in its whole extent: he will rather wait till the Eschar be sloughed off

and



and the wound healed up, and then apply a second caustic, which may be more efficacious.

Another objection to the caustic is, that *it gives more pain than the incision*. Mr. Pott says, “ the  
 “ pain attending the first application of the caustic  
 “ is indeed to some persons but little, but in  
 “ many it is fully equal to that of the knife, and  
 “ must always be of longer duration\*.”

If it be acknowledged, which is really the fact, that the caustic to some people gives very little pain, the dread of a cutting instrument is in general so great, that few patients would hesitate in preferring the first: neither is it to be conceived, that the pain of a caustic can equal that of the knife, for who then could suffer its long duration?

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\* Pott on the Hydrocele, p. 157.



It has also been supposed that the caustic is preferred to the knife “ *because it requires no dexterity in the operator\*.*”

I must confess I cannot view it in that light; for the incision of the vaginal coat is so extremely easy, that neither it, nor the application of the caustic, merits the name of an operation. And I may venture to assert it will require more dexterity to prevent a caustic from spreading to a considerable distance on the Scrotum, than to make a simple division of the Tunica Vaginalis.

Mr. Pott objects to the removal of a piece of the Scrotum in the cure of this disease, even by

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\* Pott on the Hydrocele, p. 158.



caustic ; *because he has often seen it prove troublesome to heal, and very apt to gall and fret after cicatrization\**.

What may have been the case when a large caustic has been applied, I cannot say ; but in every instance, where I have seen a small caustic used, the ulcer made by it healed up as kindly after the sloughs came away, and the cicatrix stood as firm, as it would have done if the caustic had been applied in any other part of the body.

I hope I have fairly stated and answered the strongest objections against the use of the caustic in this disease ; and that, by what I have said, it appears few of them can be urged effectually

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\* Letter to Mr. Douglas at the end of Treatise on Hydrocele.



against the mode of caustic which has been recommended.

Upon the whole, if the disagreeable symptoms, which attend the incision, excision, and large caustic, are principally derived from the exposure and irritation of the Testicle, we can easily account for the favourable and mild appearances in the method by small caustic, where these accidents are so much guarded against, by not dividing the Eschar, nor puncturing the Tunica Vaginalis till it is ready to slough away.

I have noted down, for some years past, such cases as were treated for the radical cure in St. Thomas's Hospital, which have fallen within my knowledge, though many were cured of whom I never heard. There is so much similitude between them, that a long detail would be neither instructive nor entertaining. I shall then only subjoin two cases, in which there appears to be the greatest variety.

C A S E



## C A S E I.

Mordecai Dunton, of Deptford, aged forty-eight, was admitted into St. Thomas's Hospital in November 1765. He was of a thin habit, and had enjoyed very good health his whole life. In the preceding May he had received a blow upon the Scrotum by a fall. About a month afterwards he perceived a swelling on the right side of the Scrotum, which proved a true Hydrocele, and gradually increased, appearing to contain about a pint of fluid on the 23d of November, when, without any previous preparation, Mr. Baker ordered a caustic to be laid upon the inferior and anterior part of the Scrotum, which was suffered to lie on between five and six hours.

Nov. 24th. On removing the dressings, the caustic appeared to have acted very well. The Eschar had nearly a circular form, and seemed to be about two inches diameter. The patient was perfectly free from fever, and void of all complaints.



On the 25th the patient continued in the same state, excepting a slight pain in his back, which he imagined proceeded as much from lying in bed, as from the caustic. He had no feverish heat, and a good appetite.

On the 26th he continued to complain of some pain in his back, which he still attributed to lying in bed: his pulse at this time was somewhat quickened, and his tongue white.

On the 27th he had the same complaints, with nearly the same degree of fever, but retained his appetite.

On the 28th he continued to feel the same slight pain passing from the Eschar to the loins: he had slept well in the night, and was quite free from fever.

On the 29th and 30th, and Dec. 1st, much the same.

Dec.



Dec. 2. He found himself easier. The Eschar of the Scrotum had entirely sloughed off, and the Tunica Vaginalis appeared underneath much loosened and ready to separate.

From Dec. 2, to the 6th, he was sometimes feverish, and at other times quite free from fever, and complained of his usual pain; but still thought it would go off, if he was suffered to walk as much as he chose. At this time the Tunica Vaginalis in its sloughy state projected considerably through the integuments, and looked as if it would soon burst.

On the 7th he had griping pains, and water appeared to be discharged in the poultice.—His pains went off on having a stool.

From the 7th to the 16th the water continued discharging; the sloughs projecting through the orifice of the Scrotum, and growing more and more loose; the size of the Scrotum at the same time gradually decreasing. From this time the



man was allowed to walk about the ward, flaved the patients, and performed other little offices.

On Jan. 23. he was discharged perfectly and radically cured. The application used to the Scrotum, from the removal of the caustic till within a few days of the cicatrization of the wound, was a cataplasm of oatmeal made with the common fomentation of the Hospital,

## C A S E II.

In March 1769 David Burke was admitted into St. Thomas's Hospital. He could not exactly tell his age, but believed he was about thirty, tho' he appeared older. He was apparently free from any other complaint, and seemed in good health. He had a Hydrocele of the Tunica Vaginalis on the right side. The water had never been discharged; but Mr. Smith and Mr. Martin, as well as myself, judging it to be a proper case, I applied, Mar. 23. a caustic towards the bottom of the Scrotum on the  
fore



fore part. Previous to its application, I made a circular mark with ink, about the bigness of a sixpence, as a direction for its size; but notwithstanding the great care I took, it formed an Eschar somewhat larger than an half-crown piece. It was suffered to lie on six hours.

On the 24th he was quite easy.

25th, He said he had some fever in the night, and complained of pain in his back, which however was not much greater than he had been used to feel from the weight of the tumour. From the first removal of the caustic, the Tunica Vaginalis, under the teguments of the Scrotum, felt thicker and harder than before its application; and this feeling sensibly increased. The integuments appeared inflamed round the Eschar, but no where else.

26th, He had slept little in the night, complained of pain, which shot up into the loins in the course of the spermatic vessels: no remarkable inflammation about the Eschar nor any part of the Scrotum.



Scrotum. A clyster which I had directed the night before to relieve his colicky pains had not been given; the nurse conjecturing it was not necessary, as he had passed two or three stools. His tongue at this time was white and furr'd, but his pulse not quickened. I ordered him to lose eight ounces of blood, and a large clyster to be immediately injected. About six o'clock the same afternoon I found him greatly easier, tho' his pulse was quicker and fuller, and he was sitting up in bed eating veal and potatoes. I advised him to desist; and directed another clyster at night, and an opiate draught.

On the 27th he was quite easy, and his pulse quiet. I ordered another clyster in the evening. From this time he had no medicines, except a clyster once prescribed when he was costive, and he lived on the common diet of the hospital.

Apr. 3. Observing that the Eschar of the Scrotum had entirely sloughed away, and that of the Tunica Vaginalis began to loosen and project, I made a small puncture with a lancet, and discharged



charged some of the water. From this time the Scrotum gradually diminished in bulk, the sloughs coming away daily ; and he was discharged perfectly cured on the 27th of April.

In June following he returned to the hospital with some venereal eruptions, for which he was alleviated and cured. I took this opportunity, as I had done frequently in other patients, of examining his Scrotum, and could not perceive any remains of indurated Tunica Vaginalis, nor any adhesion to any part of the Testicle, save the particular spot where the caustic had been applied\*.

The

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\* Having cured another person of the disease since this Essay was finished, it may not be improper to add the following, as so many persons now in London were witnesses of it.

George



The best practical writers advise that particular attention be paid to the habit and age of the patient, whenever the radical cure is to be attempted.

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George Holliday, aged sixty-two, who in other respects had always enjoyed a firm state of health, and had been constantly accustomed to work in the open air, was admitted, Aug. 31. into St. Thomas's Hospital for an Hydrocele on each side of the Scrotum. That on the right side was largest, and appeared to contain about a pint of water. He said it had been coming four years, and he imagined it to have proceeded from a blow upon the groin. That on the left side was about half the bulk of the other, and had been perceptible only two months.

On Sept. 7. I laid two caustics on the Scrotum, in the manner I before directed, of about the size of a sixpence, and suffered them to remain nine hours. Upon their removal, each Eschar extended to the dimensions of a half crown piece.

On the 8th common basilicon was applied to the Eschars, and having had no stool for two days, his body was opened by some lenitive infusion.



tempted by incision, excision, or large caustic, and forbid it in old age, or where the habit is complicated with some other disease.

Upon

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9th and 10th, He remained perfectly easy, no tension having come upon the Scrotum, which was carefully suspended; and he was suffered to walk about the ward, but not to go out.

On the 11th he said he had some fever in the night, but his pulse was then perfectly calm. This day I began to perceive a tension on both sides, tho' it was not considerable, yet more evident on the left than the right side. He passed two or three loose stools, which were checked by a dose of rhubarb.

On the 12th he was easy. The Tunica Vaginalis felt somewhat harder. He complained of a slight cough from catching cold, for which he had a pectoral linctus. As he desired the Scrotum to be kept warm, I ordered the dressings to be laid aside, and the fomentation poultice to be applied immediately upon the Eschar.



Upon looking over my notes, the oldest patient who has lately applied for the radical cure of this disease is sixty-three: but I can very well remember that Mr. Girle never declined it upon account  
of

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On the 13th his cough was gone, and he had no pain. The Eschars began to loosen, and the hardness of the Tunica Vaginalis on each side to increase; but not to that degree which I had reason to expect from the time the caustic was suffered to lie on.

14. His cough quite gone.

On the 15th perfectly easy.

16. He complained of slight twitches in his bowels. The Eschar was loose, and a small quantity of water was discharged in the poultice.

17. Quite easy.

19. He complained much of a purging; but upon examination his uneasiness arose from colicky pains, and frequent motions to stool, with trifling evacuations, so that upon the injection of a clyster, which was followed by a copious stool, he was entirely relieved.

On



of age simply, if the Scrotum and general habit were free of other diseases ; and that people more advanced in life have received a cure with equal ease

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On the 24th I was told the Scrotum had burst on one side, and the water was in part discharged ; and upon examining I perceived a bladder-like appearance projecting out of the hole in the Scrotum, on the right side, which I snipped with a pair of scissars, and discharged some water. This as the Tunica Vaginalis not sufficiently affected by the caustic, which I had for some days suspected to be the case, because the hardness of the Tunica Vaginalis did not come on so soon, nor was so remarkable, as in every other patient had been. He complained of some colicky pains, which were relieved by a clyster.

On the 25th the same bladder-like appearance was observable on the left side, upon which I dipped some lint in solution of lunar caustic and applied it to the Tunica Vaginalis on both sides, and afterwards ordered a solution of the common caustic to be applied in like manner every day when the poultice was changed ; and this occasioned neither fever nor pain.

In about a week I was satisfied that the caustic had sufficiently affected the Tunica Vaginalis on each side, from  
the



ease as the younger. Mr. Baker has assured me, that he has succeeded as well in men of four-score as those of forty.

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the proper hardness which came on, and the Eschar having the same appearance which it always has when the caustic has done its duty. From this time the sloughs began to come away, the cure went on as usual, and Oct. 30 the wound was cicatrized; altho' during the last ten days he caught an ulcerous sore throat from a patient who came with this disease into the same ward; but of this he was soon relieved by Dr. Greive, who had carefully attended to the whole process for the cure of this double Hydrocele, and never found his pulse in the least quicker than before the operation, till he was seized with the sore throat.

F I N I S.



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