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PARACENTESIS OF THE ABDOMEN.

On Paracentesis of the Abdomen. By THOMAS HUBBARD, M.D.,
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THE operation of Paracentesis of the Abdomen is not in itself dangerous when properly performed, and in such cases only as require it. The direction usually given by medical writers, is, to perform it as a dernier resort; and very little encouragement is given, that anything more than temporary relief can be obtained by the performance of it. The practice has usually been to delay it till the patient is almost in *articulo mortis*; and it is not strange that, instead of relief in such circumstances, death usually follows its performance.

A paper on early tapping in dropsies, by Dr. John Fothergill, was published in the London Medical Observations and Inquiries,* in which some very good remarks are made on this subject. Dr. F. states, that whenever he found a case which resisted the remedies he had prescribed, and the accumulation had become considerable, he had advised the performance of the operation. After the fluid had been evacuated by paracentesis, he remarked, the usual remedies had operated more favorably, and the cure of such patients had not unfrequently followed.

I am inclined, however, to think that his remarks, and some of a similar import that may have been made by others, have had little if any effect on the practice most commonly pursued in such cases. The operation, in fact, has almost uniformly been delayed till very little advantage has arisen from its performance; and in some instances it has been thought to have accelerated the death of the patient. Indeed, in cases of great exhaustion from long suffering, the sudden removal of the distension may have had this effect. I cannot say, however, that I have ever seen this effect from paracentesis; though I have in some instances operated, at the urgent solicitation of the suffering patients, when I could expect nothing but a mere temporary relief. Patients, in fact, have suffered little from the performance of this operation.

* See London Medical Observations and Inquiries, Vol. IV. page 114. London, 1772.

I would not be understood to recommend the performance of this operation in every case of abdominal dropsy ; certainly not till appropriate remedies had previously been used for the cure of the patient. It is not my purpose to enter into the pathology and general treatment of dropsy. With respect to the former, it is very obscure. When it is said that accumulations of serous fluid take place, when the effusion into any part is greater than the absorbents of the part can take up, we express a fact only, without any reasons why such circumstances should take place.

The treatment of dropsy is not very well settled, if we may judge from the various and very different modes adopted by different physicians who have written on this subject. With respect to the effects that are to be expected from the use of remedies, much depends upon the causes of the disease, the situation of the effused fluid, and various other circumstances of the case. We should be induced to persevere in the use of general remedies much longer in some cases than in others.

When the accumulation of fluid in abdominal dropsy follows a fever, or a sub-acute inflammation of the peritoneum, the prospect of success from the use of general remedies is much greater than when it arises from chronic disease of any of the abdominal or pelvic viscera ; and, according to my experience, there is a greater chance of removing the fluid by such remedies, when it is contained in the peritoneal sac, than when it is enclosed in cysts. Indeed, it is a question with me, whether the fluid in encysted abdominal dropsy can be removed except by paracentesis.

I am aware that it is asserted by some physicians, that they have cured, by general remedies, encysted abdominal dropsy. I will not deny this ; but I have never known such cures to have been effected. That the fluid in some cases of that kind (in ovarian dropsy, for instance) has, after a certain period, ceased to accumulate, I know very well, having met with such cases. Persons so affected are liable, however, to an increase of the quantity accumulated in such cases, from various circumstances which may take place.

Whenever I have been called to prescribe in a case of abdominal dropsy, and the patient has considerable vigor, if the quantity accumulated is not sufficiently large to endanger life or create much distress, I usually prescribe such remedies as may seem appropriate in the case. After a proper trial of remedies, and if, at the same time, the accumulation increases ; or if the quantity of it is so great as to create inconvenience to the patient from distension, demanding a constant use of evacuant medicines to keep the patient in *statu quo*,* I advise paracentesis to be performed without delay ; and if the abdomen becomes afterwards distended, notwithstanding the use of proper remedies, I repeat the tapping.

It is well known, when the distension is very great, that many medicines will not operate favorably for the cure of dropsy. Sometimes, when the abdominal distension is great, no diuretics will increase the quantity of urine, the secretion of it having become almost entirely suspended : yet, as soon as the fluid has been drawn off by tapping, the quantity of

* I have known drastic cathartics almost daily given in some cases of abdominal dropsy, to prevent the distress arising from excessive distension, and without any permanent benefit—the disease, on the whole, increasing. Paracentesis is preferable to such practice.

the urinary secretion will be increased, even without the use of remedies, and medicines will operate favorably which previously had no effect. I will state a case.

A colored young woman had every symptom of hydrothorax and ascites. The effusion in the thorax was removed by the use of remedies; but that in the abdomen went on increasing, and when it arrived to a certain stage, anasarca of the feet and legs followed. As medicines appeared to have no good effect, and the accumulation went on increasing; and as she suffered much from abdominal distension, she was tapped, and upwards of a gallon of fluid was discharged by the operation. Internal remedies were continued; and as the feet and legs remained swollen, the attending physician scarified the feet—on one of which, erysipelatous inflammation afterwards took place, followed by partial gangrene. A slough of skin and cellular membrane was cast off from the top of the foot, larger than a crown piece. The patient, however, recovered and lived a number of years, but never had any return of dropsy. The fluid in this case was contained in the peritoneal sac, and the disease was of an acute kind. The rapidity of the accumulation, though the quantity was not very great, produced distress from distension.

Encysted abdominal dropsy I have known to have been cured by repeated tapping, without the use of any other remedy—a case of which I will relate. A woman, from forty to forty-five years of age, became affected with abdominal dropsy. Many medicines were administered by various physicians. As none of them had given her any relief, and as she suffered much by distension, I was called upon to tap her. This operation I performed in the usual place, in the linea alba, about two inches below the umbilicus. About two quarts of fluid issued out, and no more could be obtained from that orifice; but as other parts of the abdomen were yet distended, and fluctuation could be discovered in several situations, I tapped in succession six different cysts. One of these cysts extended downwards between the rectum and vagina, investing the internal membrane of the latter, which appeared dry and scaly. I drew three pints of fluid from that sac. From all the cysts I drew at that time about twelve quarts of fluid, and the color and consistence of each cyst differed from the others. In one cyst, for instance, the fluid was thin and transparent like water, with very little viscosity; from another, the fluid looked like beer; and from a third, like whey, &c.

As this woman had become tired of swallowing medicines, and none had ever appeared to have done her any service; and as I thought that they could do her no service, I did not recommend any for her. She took none. She was very ill at the time of the operation; but soon so far recovered that she was able to do common household work in her husband's family, and he was a farmer. She even wove cloth in her loom, weaving being a very common employment of farmers' wives at that time in the place where she resided.

The fluid, however, re-accumulated; and though she had received so much benefit from paracentesis, she *stoutly* resolved never to submit to the performance of it again. To this resolution she was prompted and encouraged by her *very good neighbors*. She suffered so much at length, however, that she could not abide by her determination. In about six

months after the first operations, I was again called upon to operate. She was at that time excessively distended; she could not lie down; her breathing was short and laborious, with great thirst, dry tongue, &c. In short, she appeared almost in a dying state. I immediately tapped her in six different places, by which the distension was partly, though not entirely removed. I thought, however, that I would adjourn any farther operations for that time; as I supposed that the cysts, not yet emptied, would probably appear more prominent in a few days, and that she would also soon be more comfortable in consequence of the operations.

Accordingly, by appointment, I saw her again in ten days afterwards. The cysts that had not been tapped appeared (as I had before suggested) more prominent; and she was also pretty comfortable, and was at that time willing to submit to further operations. I tapped six cysts more, and drew off a considerable quantity of fluid. She then promised that, if further operations should become necessary, she would be tapped again when moderately distended. A few months after the last-mentioned operations, she was again tapped in four or five different places, many of the former cysts having become obliterated. From this period no more dropsical affections ever took place. I saw her about twenty years afterwards, an healthy old woman, and never heard of her having any return of dropsy.

I have seen some abdominal dropsies that were attended with tumors, some of which were apparent before the fluid had been drawn off; and in other cases, the tumors were only to be discovered after its evacuation. These tumors, most of them, have been organized bodies; and in that case, in some instances, are enlargements of some of the viscera. In other cases the tumors are of preternatural formation.

The existence of such tumors does not forbid paracentesis, when the accumulation of fluid demands it, if the fluid can be evacuated without wounding the tumor. When there is a considerable quantity of fluid, we can usually tap where the fluctuation is most apparent, without doing any injury. By pressure at the point usually selected for the puncture, with the ends of the fingers, even where there is a fluctuation, we can generally discover whether there is any tumor at that point within reach of the instrument to be employed in the operation. The prospect of ultimate success, however, is very much lessened by the existence of tumors in any part of the abdomen.

Sometimes abdominal dropsy is attended with enlargement and disease of the liver. I once witnessed a case of this kind, the circumstances of which are peculiar. I was called upon to tap a woman who, about three weeks before, had been delivered of a child, which was then living. I drew from her abdomen thirty-two quarts of fluid, weighing seventy pounds. No fainting or other unpleasant symptom followed the operation. The re-accumulation of the fluid was, however, so rapid, that in twenty-three days afterwards I drew from her twenty-three quarts more. The woman, in this interval, had abstained almost wholly from drink. This she had done without my advice, or that of any other medical man. She was afterwards tapped once more before she died. On dissection, the liver (which we had discovered previously to have been very much enlarged, and particularly after tapping) was found to be in a scirrhus

state, weighing thirteen pounds, though the woman was of moderate size. There were the remains of several ruptured cysts, originating from the surface of the liver, though none were whole at the time of the examination.

I have, in some instances, been obliged to tap in places different from that usually chosen, on account of the occupancy of that part by tumors. I once saw a case, in which abdominal dropsy was accompanied by a tumor. The fluid was drawn off some time before death. On examination, the tumor was a species of fungus hæmatodes, and weighed eighteen pounds. She professed herself very much relieved by the evacuation of the fluid, notwithstanding.

Abdominal tumors accompanying dropsy are not always organized, as I have had occasion to know. The following statement gives the principal facts in the case. A woman, aged thirty-three years, was affected with an illness after parturition, of the precise nature of which I was not informed. Some months afterwards, I saw her. A hard, indolent tumor then occupied the lower part of the abdomen, rather flattened in its external surface, and there was no fluctuation of fluid at the time. Dropsy of the abdomen followed, for which various remedies were prescribed by different physicians without any effect. I tapped the abdomen, and drew off thirteen quarts of fluid, which was very viscid, and in which were many small pieces of coagulated lymph, of a yellow color. These lumps obstructed the canula, and I was obliged to procure a larger instrument for future operations, which, as we shall find, became necessary.

The abdominal tumor became very distinct after the abstraction of the fluid. She became distended again as before, and her anxiety for cure caused many medical gentlemen to be consulted; but no benefit was experienced from the administration of medicines in the case. At the suggestion of an elderly physician, she abstained almost wholly from drink in one of the intervals between the operations. This measure, however, did not lessen the rapidity of the accumulation of the dropsical effusion. Her general health was good, except when deranged temporarily by the exhibition of powerful medicines, which, at various times, were employed. She attended to her household concerns for a greater part of the time between the different operations.

She was tapped eighteen times in two years, and the day before her death was in comfortable health. She was walking on a descending piece of ground, and fell forward, her abdomen first striking the ground. She was at that time moderately distended, and expected to be tapped again in about a week. When she fell, she felt, as she expressed it, something give way internally, like tearing, and immediately became extremely distressed. I saw her in a few hours afterwards. She was then cold; her pulse almost imperceptible, with great distress in the epigastric region. Stimulants and opium were ineffectually tried; friction with external heat was applied; but she died in twenty hours after the accident. On examination, a few hours after death, we found a ragged hole in a part of the cyst, in which the fluid was lodged, and in a place where it did not adhere to the peritoneum. The escape of the fluid by this orifice into the peritoneal sac, was the only reason which we could assign for her death. The extreme faintness before her death made me suspect

internal hæmorrhage ; but we found no extravasated blood. The cyst originated on one of the ovaria, and adhered to the anterior and lateral parts of the peritoneum. The tumor was a large lump of yellow coagulated lymph, which, with a portion of the cyst removed with it, weighed eight pounds.

I have known death to take place very suddenly from the omission of paracentesis, when it had become necessary. A woman, sixty years of age, had been affected with encysted dropsy of the abdomen. The cyst was small, and its size nearly stationary for twenty years. When in that state, it did not incommode her much. At length, however, she was affected with what was called a fever. Whether the fever was caused by inflammation of the cyst, or not, I do not know, as I did not then attend her. I think it very probable that the fever arose from this cause, as the quantity of the fluid in the cyst increased very fast immediately after this illness. A few months after this fever, I was desired to attend for the purpose of performing paracentesis of the abdomen. The quantity discharged was very considerable, and very thick. She was completely relieved by the operation. The fluid, however, re-accumulated, and the operation became again necessary in a few months.

Though she was very comfortable after these operations, yet she resolved, after the second, that she would never be tapped again. However, after enduring great distress, she again sent for me to perform the operation. I was unfortunately not at home when I was sent for. The next day I set out to visit her ; but, as her residence was fifteen miles from mine, I met a messenger on the way, sent to inform me that she was dead. He informed me that, before her death, she had been more distended than before either of the other operations, and that for several days she had been much distressed. No examination of the body was made.

The rules which I would propose relative to the operation of paracentesis of the abdomen, are—Not to operate if the distension is not so considerable as to give much uneasiness ; and if, at the same time, the quantity of the effused fluid is not increasing. My reasons are, that, by taking off the compression in such a case, the accumulation might increase rapidly, and the operation again become necessary. I will give a case in which the tumefaction did not increase, after having arrived at a certain quantity.

A colored young woman, who was at service in a farmer's family, had been affected with abdominal dropsy for several years ; but it had not increased for a year or two before I saw her, and she suffered no inconvenience, except from the size of the abdomen. The abdomen was about the size of a woman at the full term of pregnancy, and probably contained about six quarts of fluid, and which was, probably, contained in a cyst. There were no signs of a dropsical diathesis in her case ; in fact, her health seemed to be good. When her abdomen first became enlarged, she was taken in hand by the local authorities of the place where she resided, and pregnancy charged upon her. This she stoutly denied, and asserted her innocence, of which there was no reason to doubt.

I did not advise the operation in this case, and she lived for several

years in the part of the country where I resided. I had frequent opportunities of seeing her, and she informed me as often that the enlargement of the abdomen did not increase. At length she married and removed from the place, and I never heard from her afterwards.

On the contrary, I would advise the operation—

1st. In any case in which the fluid cannot be removed by the use of other remedies, and in which the effusion increases in quantity, interrupting the healthy functions of the system; and

2dly. I would, if consulted in season, advise to the performance of the operation before the patient has become excessively distended, and also before the patient shall have become very much reduced in strength.

The constitutional irritation, arising from great distension of the abdomen, is not confined to pain and other deranged sensations in the region of the abdomen. When it is very much distended, a pain in one or both sides is frequently felt, which seems to arise from the pressure of fluid which presses the anterior ends of the short ribs outward. When this pain happens to be felt most severely in the right side, a diseased state of the liver is frequently suspected. This pain, however, immediately ceases as soon as the fluid is discharged by paracentesis, and in many such cases no enlargement of the liver appears; and as the functions of it also seem to be well performed afterwards, there is no reason to suspect disease of structure, or diseased functions of the liver, as a cause of dropsy.

The functions of the nervous system become deranged also from excessive distension of the abdomen, long continued. I will state a case which I witnessed. A young woman was affected with abdominal dropsy, which began soon after a fever. The fluid accumulated very slowly, and she was several times relieved by the use of the various medicines administered. At length she became occasionally affected with vertigo and loss of recollection, followed by a degree of numbness that was very disagreeable, and, in fact, alarming to herself and friends. The operation of paracentesis was at length resolved on and performed, by which thirty pounds of fluid were discharged. About an hour after the operation, though nothing particular took place at the time of the operation, she was affected with similar feelings, and also great distress in the epigastric region. By the use of opium, alcohol, and external warmth and friction, she was restored in two or three hours.

I heard from this patient a year after this operation. She was in good health, and there was no return of the abdominal distension. In fact, soon after the operation, she had resumed and had continued her work in a cotton mill. This last information was two or three years ago; and since that time I have not heard from her. This is the only case in which I have known such symptoms to follow this operation, which I have performed many times.

In the performance of paracentesis of the abdomen, I use a flat trochar, with a lancet point. Previous to its performance, I pin a broad linen or cotton bandage around the abdomen pretty tight. I cut a hole in this bandage as large as the palm of the hand, and so apply the bandage as that the hole should leave uncovered the place where I design to make the puncture. While the fluid is discharging, I keep one or more assist-

ants employed in pinning the bandage tighter as the fluid is discharged. I endeavor to discharge every drop of fluid that can be got out by change of posture, and compressing the different parts of the abdomen. When this is done, I withdraw the canula, apply a small dossil of lint to the orifice, and over it an adhesive plaister. I then introduce a compress under the edge of the hole in the bandage all around, and pin the edges of the hole in the bandage to the compress. The dressings are then complete, and the patient need not be afterwards disturbed to adjust anything—a matter of some importance to a weak patient. I have known bad consequences to arise where the opening, made by the trochar, did not heal, which it is not always disposed to do in very old people, and in constitutions worn down by disease.

On one occasion I tapped an old gentleman, who was very feeble, and in whose case the operation had been too long delayed. Nothing particular, however, occurred during or immediately after the operation; in fact, I left him, as I thought, very comfortable. I lived fifteen or twenty miles from him, and left him to the care of his attending physician. The orifice re-opened in a day or two after the operation. The physician, though a *shrewd*, was not however a *learned* man, and thought it an excellent thing that the fluid should discharge from the orifice as fast as it was effused into the abdomen. The consequence of this, however, was peritoneal inflammation and death in a few days. This is the only instance of such an event in my own practice, though I have been informed of several similar ones.

In all my operations from that time, before I left my patient after the performance of paracentesis, I have been particular to request to be informed if the orifice re-opened; and if the discharge could not be stopped by re-dressing, which sometimes may be done, that I might see the patient; or, if the distance from my residence was too great, I have stated my plan to the attending physician. My mode is, to pass a cambric needle through the edges of the orifice, and with waxed silk to make a twisted suture, and to keep in the needle till the orifice should heal. If kept in four or five days, the healing is accomplished. I once thought I saved the life of a lady, seventy-four years old, by this mode. About thirty-six hours after the operation the orifice opened, and a serous discharge took place. The attendants re-dressed the orifice without effect. She became faint, and there was much abdominal distress. I was called, and used the twisted suture. Soon after this, all uneasiness subsided, and no bad consequences followed the operation.

Medical Institution of Yale College, August 22, 1832.

DIET AND REGIMEN.

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SOME thirty or forty years since, when commercial expeditions to the remotest parts of the earth were much less frequent than at the present day, a ship returned after having made a very fortunate voyage into the Pacific. The master invited the owners, with his and their friends, to visit him on board. They partook very liberally of such refreshments as