

followed by a glass of milk. The second day the dose should be six drops, the the third seven drops, and so on, until a dose of twenty-five or thirty drops is given each time.

Creasote can seldom be given in sufficient quantity to have any material effect, because of the disturbance of the digestive organs which it is liable to cause and because of its coagulating effect upon all albuminoids. The same may be said of carbolic acid.

Carbonate of creasote is much more bland and may be given in doses of from five to sixty drops after each meal with great benefit.

Guaiacol may be given in much the same way as the oil of cloves, though in somewhat smaller doses, but it is usually less easily borne than the carbonate of creasote or oil of cloves and often can not be tolerated in sufficient quantity. The carbonate of guaiacol may be used in much the same way as guaiacol itself, but most patients seem unable to take it in sufficient doses.

Oil of cloves and carbonate of creasote are the most satisfactory antiseptics for internal use. Iodin may be used as recommended by Shurly with undoubted benefit, but it causes considerable pain and is open to the objection that it necessitates too constant attendance of the physician; it may also be used advantageously as an inhalant.

Patients should not be sent from home unless their financial and social condition is such as to render the journey and sojourn easy and agreeable.

In the first stage of the disease patients should as a rule go to a high altitude where the atmosphere is dry and as warm as practicable. In the second stage they should be sent to a medium altitude and in the advanced stage, if sent anywhere, it should be to a low altitude.

Patients who have been improving on any course of medication should not discontinue it upon going to a different climate, but, however valuable any remedy may appear, it should not be continued if it becomes clear that it is deranging the digestion.

When sojourning in a favorable climate the patient should be out of doors as much as practicable during the pleasant portion of the day, should avoid excessive heat, excessive cold and unusual fatigue.

Of anodynes to check cough hyoscyamus, camphor, cannabis indica, stramonium and conium are of the most value, because they can generally be taken in sufficient quantities without disturbing the digestion, whereas opiates are usually deleterious in whatever form they may be employed.

The majority of patients sent from home in the latter stages of pulmonary tuberculosis are injured by the journey and their lives correspondingly shortened, though in a small percentage very great benefit is obtained in a warm and very dry climate.

**Sciatica Treated by Compression of the Sciatic Nerve.**—Arullani has improved upon the digital compression practiced by Negro by substituting a double pad apparatus for the fingers. He has applied it to 40 patients: 2 were improved, 6 proved rebellious, but all the rest, 32, were cured. He recommends compression of the popliteal cavity besides the point where the sciatic nerve emerges in the thigh. The general condition of the patient and the location of the pain are better criteria for the success of the measure than electric tests or the duration of the trouble. For details of the Negro method, see the JOURNAL, Oct. 3, 1896, page 765.—*Gaz. d. Osp. e d. Clin.*, February 28.

## ORIGINAL ARTICLES.

### THE MEDICO-LEGAL ASPECT OF FLOATING KIDNEY.

Read at the Third Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Ill., Sept. 23, 24, 25, 1896.

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The rarity of a condition makes it all the more important from a medico-legal standpoint. Cases of frequent occurrence give greater opportunity for their study and consideration. Rare cases offer few precedents and afford but occasional opportunities for observation.

Less than a year ago, I was called to testify as an expert witness in one of these rare cases, which, so far as I am able to learn, has never had a precedent, but its importance impressed me so profoundly that I feel that I owe it to the medical as well as the legal profession to briefly consider it on this occasion. Without referring to names, dates or places, I shall simply state the facts in the case and then proceed to study them from a medico-legal standpoint.

A gentleman of middle age was injured in a railroad wreck which he claimed caused a floating kidney on his right side. Beyond this his personal injuries were comparatively slight. He presented his claim to the company, which did not deny its liability as to the cause of the accident in which he claimed to have been injured, but disclaimed the responsibility of having caused the existence of a floating kidney. The company's defense was based on the fact that the gentleman had, to their positive knowledge, been affected with a floating kidney for years prior to the accident. He had consulted eminent members of the medical profession, who confirmed this diagnosis. Surgeons of high repute were called to examine him after the accident, who found him unquestionably affected with the disease in question.

The claimant admitted having had a floating or movable kidney prior to the accident, but alleged that with the use of bandages and the palliative treatment he had received, he had fully recovered and at the time of the accident was perfectly well, and that although the floating or movable kidney was the same organ that was displaced before, again loosened and was in an abnormal condition as the direct result of the accident.

It will be observed that in a trial of a case of this kind, the prosecution and the defense must depend largely on the medical evidence as to whether the claimant is entitled to damages at all and if so, to what extent. The company admitted its negligence, it acknowledged that he was injured and that he had a floating or movable kidney, but it denied being responsible for the existence of the abnormal condition; hence, it lay with the medical witnesses to show from a clinical standpoint whether it was probable for a patient to make a spontaneous recovery after having had a floating kidney for years, and if so, whether he would be as sound after such recovery, as if the floating or movable kidney had never existed. In the study of this case it becomes necessary to briefly consider the clinical features of a floating or movable kidney.

1. Its frequency. 2. Its tendency to spontaneous repair. 3. Palliative treatment for its relief.

*Its frequency.*—In this connection, I have been unable to obtain any reliable statistics except that a floating kidney occurs much more frequently in the female than in the male, and that in a large majority of cases, the right kidney is the one effected. For years I have been particularly interested in this subject and during that time have made hundreds of examinations for various diseases common to the abdominal cavity, and with few exceptions have I failed to examine the patient, carefully, for a displaced movable or floating kidney. I have rarely found the left kidney floating, but I have found the right kidney floating or movable in female patients very frequently, so much so that I am inclined to believe that it is much more common than it is generally supposed to be. In all the examinations I have made, I can only recall some two or three cases in which I have found a floating or movable kidney in the male. It seems to be an exceedingly rare occurrence in this sex, so much so that I feel that we are justified in saying that it is only in exceptional cases that we find it existing in the male at all.

*Its tendency to spontaneous repair.*—There is not a case of movable or floating kidney that has come under my observation in the male or female that has made a spontaneous recovery. In conversation with medical friends who have had experience in this class of disorders, I have thus far failed to find a single case in which there was reason to believe spontaneous recovery had taken place. In fact, if we study the pathology of floating kidney, we can not reasonably expect spontaneous recovery, for the reason that in the true floating kidney, the organ is surrounded with a meso-nephron, and hangs by a pedicle, free to move within the abdominal cavity in any direction. The anatomic relations of the kidney with the peritoneum are such that when it has a meso-nephron, the peritoneum has been displaced to such an extent as to form a capsule, which even the most expert operator is unable to replace. This, being the fact, it is unreasonable and impractical to expect spontaneous recovery.

A movable kidney is distinguished from a floating kidney from the fact that it does not have a meso-nephron, but is free to move underneath the peritoneum, which it dissects from the lumbar muscles, and when once loosened, permits the kidney to move to and fro underneath it like a shuttle.

A displaced kidney may be congenital or post-natal. I recall a case of displaced kidney which I observed a few days ago in an abdominal operation. In this case the kidney was very much distorted and located just over the promontory of the sacrum. The patient had never complained of any pain or trouble with the kidney and had it not been for an operation for the removal of the ovaries and uterus it is quite probable that no one would have been the wiser. In considering a displaced kidney, we shall not include those of a congenital origin, but simply, where it has by some external force been displaced and lodged in another part of the abdominal cavity and anchored there by inflammatory adhesions. The tendency to spontaneous recovery in cases of this kind is not very flattering, and I am frank to say that in my experience I have never had the pleasure of seeing a case in which such displacement existed and spontaneous recovery took place. From these few observations I am led to believe that any one of these conditions may be tolerated by the patient, and the kidney and the surround-

ing structures may so accommodate themselves to their new environments as to relieve the patient from pain to such an extent that he may apparently recover his normal health; as a rule I do not believe that this is true but, on the contrary, I have found in these cases a general tendency on the part of the majority of patients, at least, to get worse. If not troubled with actual pain, they become nervous; their digestive system is disturbed as well as the functions of the kidney itself, which, of necessity, sooner or later lead to grave systemic complications.

*Palliative treatment for its relief.*—The palliative treatment which has been recommended for years in our text-books for the relief of floating or movable kidney is in my judgment worse than useless. I am not insensible to the fact that our best writers recommend the use of bandages and compresses for the treatment of this disorder, but why they should recommend such treatment is beyond my comprehension, except that somebody who wrote a book sometime before had recommended such a thing and like the traditions of old, it has been handed down from one generation to the next. Certainly there is no logical reason for the use of bandages and compresses in the treatment of floating kidney. If you stop a minute and study the anatomy of the human body you will readily see that no bandage can be placed over the abdomen with safety to the adjacent structures that will have the slightest influence in holding the kidney in its place. It is only necessary for you to cut a cadaver in two, crosswise on a line with the kidney, and you will see at once that the kidney is not *only* protected by the ribs posteriorly, laterally and even anteriorly, but it is also guarded by the vertebræ, which in the majority of cases project beyond the level of the kidney so that if it were practical to bandage a patient so tight that the bandage would rest on the anterior portion of the spinal vertebræ it would not be sufficiently tight to hold the kidney in its normal position. It is only necessary to examine an articulated skeleton to demonstrate this for yourself, when it will be evident how utterly absurd it is to expect beneficial results from this method of treatment. But I imagine I hear some one say that this can be overcome by compresses. Admitting that you can make a compress that will fit down between the ribs and spinal vertebræ so as to make pressure on the kidney, I defy you to hold the kidney in place with any such compress, without injury to the adjacent structures as well as the kidney itself. Worthy Fellows of the Academy, in summing up these observations, I want to call your attention to the fact that a movable or floating kidney in the male is quite an unusual occurrence; that the tendency to spontaneous repair is exceedingly rare; that the palliative methods heretofore advised and used for the treatment of this condition are anatomically and physiologically impractical.

*Legal aspects.*—To properly consider the legal aspects of a movable or floating kidney it is necessary for us to consider, as we have already done, the clinical conditions which exist in these cases. The legal responsibility depends largely on circumstances, and circumstances are usually the offspring of facts. In studying this part of the subject we shall divide it into three divisions. 1. In acute diseases. 2. In chronic cases. 3. In alleged spontaneous recoveries.

*The legal aspects in acute cases.*—The legal aspects in acute cases of movable or floating kidney depend entirely upon the legal responsibility of the company,

If a claimant has, without any fault of his own, been the victim of an accident, which accident had been entirely the fault of the company and as such has resulted in an acute case of movable or floating kidney it would only be necessary to show that these were the facts in order to establish a claim against the company. The defense would not be justified in setting up the claim that the party may have had a predisposition by reason of general disability, to a displacement of the kidney, because it is presumed it will use every reasonable precaution against injuring any of its patrons whether they be in enfeebled or of robust health.

*The legal aspects in chronic cases of floating or movable kidney.*—While the company may be responsible to a claimant for injury by reason of an accident, such responsibility is not lessened so far as the company is liable for negligence, but it is lessened by reason of the fact that a diseased condition existed prior to the accident and may have been exaggerated by the accident; but not in fact a primary result of said accident, hence the company should not be held responsible in a case of this kind to the same extent it would be held responsible in a case where no such chronic condition existed.

Allow me to illustrate. A few months ago I was called as an expert witness in a case that was being tried before the United States court, in which it was shown beyond dispute that the claimant had suffered from tuberculosis of the hip joint in childhood and had been treated for the same for years, finally recovering sufficiently from the disease to do a certain class of manual labor but leaving him a confirmed cripple. Outside of this crippled condition his general health appeared to be normal. He was riding in a sleeping car on one of the trunk lines of Ohio when a very trivial accident occurred causing a sudden stoppage of the train, but being in the sleeping car riding with his head toward the engine, he suffered no visible injury whatever, did not know what happened until he got out of the train and made inquiry, after which he went back into the car, went home, and some days afterward complained of his old trouble; was taken down a few weeks later with suppurative morbus coxarius in which there was multiple infection. The abscess was opened by a competent surgeon but the patient died of pyemia and the company was sued for \$10,000 damages. In the trial it was shown that there was a head-end collision, which, of itself, held the company without any further evidence of negligence. It also developed that the claimant had suffered from hip-joint disease long before the injury, and although he had for the time being apparently recovered, yet he was predisposed to its return. The expert witnesses for both the prosecution and the defense confined themselves to scientific and clinical facts rather than taking sides in the case. The attorneys for both plaintiff and defendant, who were among the most able counsel in the State of Ohio, showed a remarkable disposition to get at the real facts and place them fairly and squarely before the jury, which was one of more than ordinary intelligence.

In summing up the evidence brought out in the trial, it showed that a party who had suffered from hip-joint disease prior to any accident had a predisposition to the return of the disease, and hence, a very slight injury that would not affect a healthy person in the least, might result in the return of the tubercular trouble and to that extent the defendant was not liable for damages.

As a legitimate result the jury rendered a verdict accordingly, giving the administrator a few hundred dollars instead of several thousand.

From this I observe that it is only fair and reasonable to assume that where a floating kidney existed prior to an accident, that the defendant in an action for damages is not responsible for its existence, although it may have exaggerated its condition, and hence should only be held liable for such injury as is clearly shown to be the direct result of the accident.

*Legal aspects in alleged spontaneous recovery.*—If a claimant has suffered from a floating or movable kidney and alleged to have recovered from such abnormal condition, received an injury in which he assumes to have had a return of his former trouble, and on account of return of said condition claims damages, it becomes necessary for him to show, beyond a question, that he had fully recovered from his former diseased condition and to show that his present abnormal condition was wholly due to negligence on the part of the defendant and in no wise the result of the former diseased condition before he is entitled to damages for the same.

In conclusion, it has been my experience that the disposition to spontaneous recovery with or without palliative treatment, in cases of floating or movable kidney, is not warranted by clinical observations. This being the fact a jury is not warranted in awarding the same damages to a claimant as if the whole injury had been caused by the accident, although he may allege to have recovered from his former abnormal condition prior to the accident, but they may award such damages as the evidence shows was the direct result of the accident.

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#### DISCUSSION.

Dr. GALBRAITH—Mr. President and Gentlemen of the Academy: I desire to compliment the Doctor upon his courage in selecting so unique and unsatisfactory a subject for a paper. In the first place the difficulty in making a diagnosis of a floating or loose kidney is readily understood by every member of this Academy. Again, the subject being so unusual that in the doctor's description he has not cited or brought to our notice a case of a loose or floating kidney either so as to speak of idiopathic or traumatic case but has confined entirely those conditions to females. We can readily and in a measure understand that the exciting cause of floating kidney in females is the result of tight lacing, and as the doctor mentioned it is invariably confined to the right side; in connection with crowded and depressed viscera you do occasionally find this condition in a female from this cause. That we should select or bring up a case for discussion of so unusual occurrence struck me as of little benefit either for ourselves or for our companies. I am afraid we are running too much into peculiarities, idiosyncrasies and unique ideas that will not only cause comment from our superior officers but from the public at large. In nearly all the railway meetings of the last two or three years I have attended there have been something new as the result of alleged traumatism. Now as regards the medico-legal aspect and treatment of floating kidney, I doubt if we would be justified to the extent of the heroic and mutilating methods that are advised. In the first place the Doctor has not cited, as trauma or the results, a case that has been approved. I failed to note anything of that kind in his paper. Now we have the palliative treatment; our text books say we will apply a bandage and compress, and in the case of a loose kidney as the result of trauma we have a dozen or more text books stating positively that to apply a compress and bandage is the principal thing. In this the Doctor takes exception to the authori-

ties. Now then are we justified in proceeding to perform an operation that the Doctor has very well and satisfactorily demonstrated? Is that protecting our company, or do we as individuals assume the responsibility of so heroic surgical interference?

Dr. E. WYLLYS ANDREWS—I would like to ask Dr. Reed whether it is not true that perhaps the majority of our cases of floating kidney are accompanied by disease of the organ, of course producing an enlargement, hypertrophied condition or dilatation; that the bandage with an exceedingly large kidney is of use? While it is anatomically true that no force can be exerted on a normal sized kidney, may it not be true that a movable large kidney can be restored and the pain somewhat diminished by a soft compress?

Dr. LEMEN—I would state that my experience with the bandage has certainly given more or less relief in floating kidney, as Dr. Andrews says allowing for an enlarged kidney but especially in a relaxed abdomen; anything that will give support to the abdomen will more or less support the contents therein, and I have had several cases that had a great deal of relief by simple abdominal support. It did not cure the trouble, but acted as a simple palliative measure to relieve the distress as a truss.

Dr. OWENS—I beg to differ with my friend (Dr. Galbraith) in reference to the importance of the subject. The gist of the paper is this: That given a case of floating kidney, or a kidney that is capable of being displaced, and a railroad accident where it could be afterward shown that a displaced kidney existed, and then the evidence comes in that displacement of the kidney once existed and offered in evidence—may be shown from professional standpoint that such displacement did exist but that it had been cured by a bandage and that the jar or shock had displaced it—the question comes, is it possible to cure a floating kidney or displaced kidney by a bandage? I must say I am in full accord with the paper. The kidney may have general support by means of the bandage and it will be helpful and comfortable more or less, but in no sense is it cured. And we ought to be able to show sooner or later that it is not possible to cure a floating kidney and hold it there till it remains fixed in a healthy state by means of the bandage. I did not see anything in the paper that urged an operation, but the plain question is whether we can cure a displaced or floating kidney by means of the bandage, and if we can not we ought to be able to show that such is the fact. I have one case in mind on the Northwestern in which a girl was injured and she had complained of various ill-defined symptoms; she passed through the hands of one or two and finally an expert diagnosed a floating kidney and operated, and it was claimed she was entitled to damages. I think from a medico-legal standpoint the position taken by the writer of the paper is very correct and will be sooner or later recognized.

Dr. RANKIN—It seems to me the most important question is, are we forced to admit that trauma can produce floating kidney? There is such close sympathy between all these organs—they have a common peritoneal covering with the entire viscera—and these organs, with the kidneys, vary so much that it seems to me that we have not sufficient proof that trauma is the cause of floating kidney at all. It is certainly very difficult for me to understand how it could; anything that would displace the kidney would bring on inflammatory reaction around the kidney, which would have the reverse action—make it stick instead of float. Can we under our present state of knowledge admit that trauma can produce floating kidney at all? I doubt it very much.

Dr. HARNDEN—One well authenticated case came under my notice. A woman had been treated for some years for floating kidney by compresses; she was better in health and it was claimed she had been cured. She was taken sick something like a year after the supposed cure had taken place and her

case was diagnosed then as an aneurysm, and she went from bad to worse till she was in a hopeless condition. I was called in consultation to see her and I pronounced it floating kidney. She died something like two weeks after that time; an autopsy was made and it was found it was floating kidney and there was no indication of cure in the case; the kidney, like a shuttle, passed about in every direction, and it seems to me the limited description of the kidney and its attachments would bear out the idea that it could not be cured by any such means. It seems to me, an application made through the abdominal tissues and surrounding tissues would be utterly futile in holding in position the kidney. And furthermore I think it is about on a par with the treatment of hernia; when the kidney has lost its attachment, the pedicle has become elongated. I do not believe there is anything that will cure it but shortening the pedicle and tying it up.

Dr. HAWES—I have known a great many cases of floating kidney that were alleged to be very much improved by bandages and trusses and quacks, and for all that, notwithstanding the testimony that has been adduced in their favor I am strongly inclined to the opinion it was not in a majority of the cases a disease of the kidneys so much as a disease of the imagination. There is a large per cent. of the cases where floating kidney is alleged to be found, as we know, in hysteric women, and if we were able to make an exact diagnosis and able to see the exact results of our treatment without being able to give any reasons except such as had been satisfactory to me and the result of observation in the past, I should feel strongly inclined to believe the very respectable per cent. of such cases was discomfort arising from the imagination rather than from the kidney.

Dr. GALBRAITH—Before closing, permit me to say, if memory serves me right upon the literature of this subject, it fully concurs with the evidence we have had here as regards it being almost invariably found in women. I further doubt, as already stated, that there is in this Academy or in this city a case of floating kidney which can be positively proved beyond doubt due to trauma. If that were the case—that such conditions could result from trauma—stop and think, nearly 200 men are injured on the railroad to one woman, and I fail to discover, either from the evidence here or from the text books I can think of, a case where this condition has been alleged and damage proceedings brought against the railroad for this condition in men. Now then we do perform operations successfully for the anchoring of the kidney, but in alleged floating kidney the results of an injury to an employe or a passenger upon a railroad, are we justified in resorting to those methods which the Doctor has described and the text books describe, to cure the condition? I doubt it. I doubt if we would be using proper judgment in resorting to anything of an operative character. As to the medico-legal aspect of assuming responsibility of these cases I am not prepared to remark, but in my judgment we would be to a greater or less extent responsible for the direct result of this operation. In reviewing this subject I find that the text books merely mention the fact that it may be the result of trauma—that is very unsatisfactory (laughter), it is like a great many other subjects in our text books, very unsatisfactory indeed.

Dr. LEMEN—Why would you [Dr. Galbraith] hesitate to operate on a floating kidney that was the result of trauma, any more than on hernia that was the result of trauma?

Dr. GALBRAITH—I think I have made that very plain, that the moment we perform the operation for traumatic floating kidney we are confronted, as the author of the paper says, by a dozen or more text-books stating that the bandage, compress and various appliances are recommended.

Dr. REED—I am very sorry our distinguished friend, Dr. Galbraith, "got off the eggs on to the straw." My paper did not consider the question of anchoring the kidney, did not consider it

as coming in this discussion at all; and furthermore, I did not say in the paper that there was such a thing as traumatic displacement of the kidneys; the question is asked whether I ever knew of one—I think I can cite several cases which I have every reason to believe were traumatic. One case of a young girl in this city, lifting a bucket of coal, and as she said, something gave away in her right side, she felt sick and faint, was placed in bed and was an invalid—that was not imagination. Having been a citizen of Columbus she came home, and was brought to me by her family physician; an examination was made and I could very easily, as she was a thin, spare girl, move that kidney from the bottom of the pelvis under the edge of the ribs, a distance of three or four inches, as plain as anything. I made an operation for anchoring the kidney. Two years ago the lady was brought to me with an ovarian tumor and I made another operation—thought I, this is my time to examine the kidney and see whether it is fast or not; because we had a distinguished member of the profession who said the kidney was loose again, and I was more than interested because my operation was challenged. I made that examination, and the kidney was fixed in its normal place. That was a case where lifting occasioned the injury, a floating kidney was found, it was operated on, it got well, and it seems to me that is conclusive that we have such a thing as traumatic floating kidney. In another case a young man playing ball was struck in the abdomen, was taken with severe pain immediately afterward, and from that day to this has never been well, though he was the strongest young man in that section of the country. But on examination you can find the lump in the right side, that can be slipped up and down a distance of two or three inches, and I believe is a floating kidney, the result of traumatism. I can not prove this matter any clearer, but however, let that be as it will, it does not enter into this discussion of the medico-legal aspect of the paper, because here comes a man who was injured on the railway; he admits having a floating kidney, but claims to have been cured of this and now comes up to the company and gets \$12,000 damages, and gentlemen, dare we stand and ignore these facts, if they are facts? Twelve thousand dollars is pretty rare; I would not want to pay it, nor have my company pay it unjustly. The fact is that these cases come to us, we must study them and, as I said in the beginning of the paper, because they are rare, it catches us unprepared, and when this case was tried there was very little testimony that could be gotten at. Further than that, we find the text-book, as I have already said, is absolutely useless because it is false—I do not believe he ever was cured and I do not believe he was entitled to damages. That is the reason I bring this out, and it seems to me it is fair and just and reasonable. Dr. Andrews' suggestion with reference to an enlarged kidney; of course, in an acute displacement of the kidneys in case of congestion we may have hydronephrosis, but generally there is no enlargement in the cases that I have examined; I could not detect any enlargement, but I could move the kidney several inches. But if enlarged I admit the use of the bandage, but I deny that it cured them, and that is the point in law, because the law says they must have been absolutely cured to receive any damage. I want to reiterate, you can not by this treatment cure these cases, and hence, if you can not cure them, they have not a right to damages. The same argument that I have just given you I think obtains as to the matter of imagination. I admit we may have an imaginary tumor and other things in the abdominal cavity, but I do think there is a question in the world but what we have floating kidneys, and if we have floating kidneys from any cause whatever, then my paper holds good, and the case as brought before the company holds good as a possibility.

Dr. COLE—In those cases occurring suddenly what is the history with reference to the acute constitutional disease?

Dr. REED—The history is prostration, faintness; they speak

of it as an all-gone feeling, whatever that is like; they feel as if something dropped away from them, and if they stoop it gives them pain; on lifting they feel a dragging pain in the right side; I believe I never saw but two on the left side. One case passed bloody urine after the accident, another I did not observe and could not say.

Dr. GALBRAITH—I think my colleagues will fully concur that what I say is the fact, that the great difficulty in making a differential diagnosis between floating kidney and diseased conditions of other parts of the viscera of the abdominal cavity, and I wish to cite one case where my colleague and the author of this paper, with other very able gentlemen, was called in consultation by me to examine a case of abdominal tumor beyond any question of doubt; they were satisfied, as well as myself, that we had a floating kidney—the floating kidney proved on examination under anesthesia to be gallstones. I removed seventy or eighty gallstones from the gall-bladder.

### ON THE TREATMENT OF DIABETES MELLITUS BY A DIET FROM WHICH ALL CARBOHYDRATES HAVE BEEN EXCLUDED.

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Since diet has always played such a prominent and supposedly essential part in the treatment of diabetes mellitus a general discussion of this subject may be of interest, the more especially as there has apparently been of late an under-current of thought to the effect that possibly the complete exclusion of carbohydrates from the diet might not be an unalloyed blessing to the diabetic. The writer hopes to show in this paper, both from careful personal observation of a typical case of diabetes as well as the quoted experience of others upon the salient points, that a diabetic should be placed under no different conditions of diet than are granted the healthy individual and that a rigid exclusion of carbohydrates from the diet is productive of abnormal metabolic changes which result in not only progressive emaciation and weakness, but also in the production of various toxic bodies to which the severe cerebral symptoms of this disease are to be attributed.

#### I. SUGAR IS ALWAYS PRESENT IN THE BLOOD.

*Physiologically.*—"Glucose is always present in the blood in quantities varying from 0.1 to 0.15 per cent." (Landois, "Lehrbuch der Physiologie des Menschen," p. 59). "The normal proportion of sugar in the blood does not, as a rule, go up as high as 1 per cent., although it may vary in different individuals" (Cohnheim, "Vorlesungen ueber allgemeine Pathologie," p. 97). "Sugar is a normal extractive of the blood" (Foster, "Text-book of Physiology," p. 50). "The amount of blood sugar remains about the same even during starvation" (Abeles, *Wiener med. Jahrbuch*, 1875, No. 3).

The following tables of Seegen (*Archiv f. d. ges. Physiol.*, 37, 348-369) show that sugar is always present in the blood irrespective of various diets or fasting.

	Carotid Blood. percentage.	Portal Blood. percentage.	Blood in Liver Veins. percentage.
Fasting (8 exp.) . . .	0.157	0.147	0.260
Starch Diet (9 exp.) . .	0.150	0.144	0.261
Sugar Diet (6 exp.) . .	0.165	0.186	0.265
Dextrin Diet (4 exp.) .	0.176	0.256	0.320

*In Diabetes.*—"Diabetes is an abnormal increase in the blood sugar" (Cohnheim, *op. cit.* p. 97). "The elimination of sugar in diabetes does go down considerably in diabetes during a prolonged fast but is