congenital. The affection is due to obstruction somewhere between the kidney and meatus urinarius. It is most commonly situated in the ureter. Among the causes mentioned are twists or contractions of the ureter, impacted calculus, stricture of the urethra, enlarged prostate, tumors of the ovary, bladder, or uterus. Of thirty-two cases recorded by Roberts, the cause was found to be impacted calculus in the ureter in eleven. From the records of *post mortems* in the Middlesex Hospital, it appears that in every eighteenth case there was sufficient hydronephrosis in one or both kidneys to be mentioned in the report.

Although the disease is quite common, the proportion of cases in which the enlargement of the organ is sufficient to form an abdominal tumor is very small. The fluid is usually clear and almost odorless, but there are many exceptions to this rule. The disease is twice as frequent in females as males, occurs at any period of life, and affects each kidney about equally, but may occur in both. The quantity of fluid is sometimes enormous. One case is reported where the woman measured 6 feet 4 inches around the abdomen and the cyst contained thirty gallons. The enlargement may lessen in size or intermit from escape of the fluid into the bladder.

Morris says: "Up to the present time there have been at least twenty-seven nephrectomies for hydronephrosis, of which sixteen were abdominal and ten lumbar. Of the sixteen abdominal cases seven recovered, and of the ten lumbar cases seven recovered. In one the character of the operation is not stated, four of the fatal cases were diagnosed ovarian, and three of the successful abdominal cases are also diagnosed ovarian or broad ligament cysts." It would appear, therefore, from reading this author, that up to the present time abdominal nephrectomy has been more fatal than lumbar. We must recollect, however, that most of the abdominal cases were ones of mistaken diagnosis: In fact, cases supposed to be ovarian, and therefore advanced cases, were removed at a time when any operation, abdominal or lumbar, would have been hazardous.

I am firmly of opinion, however, that in those cases where a large tumor fills the abdomen, the lumbar operation cannot be entertained, as it is difficult or impossible to say which kidney is the diseased one, and the cyst is too large for this plan of operation.

In closing this very imperfect survey of the subject of hydronephrosis, I would beg leave to submit the following conclusions:

(1) That in a large proportion of cases of advanced hydronephrosis, where the tumor fills the abdomen, it is impossible for the average operator to say whether he has a cyst of the kidney or an ovarian tumor.

(2) That, supposing hydronephrosis is suspected, it is not possible to say which kidney is the diseased one.

(3) The last two propositions being admitted, it follows that, in all these advanced cases, incisions in the loin and drainage cannot be advocated, as the surgeon is unable to say which side to incise.

(4) In view of these difficulties in diagnosis, it would seem preferable to make an incision in the linea alba and complete the diagnosis with the hand. If the case be a cyst of the kidney, carry the incision upward and complete the operation by enucleating the tumor.

(5) This operation is suitable alike for cases of hydro- or pyonephrosis, the danger of course being greater in the first.

(6) That abdominal nephrectomy by the median incision is a difficult operation, owing to the high position of the tumor, the close relations of the aorta and vena cava, the large size of the renal vessels, and the fact that the tumor is behind both layers of peritoneum.

(7) If a correct diagnosis could be made, I am of opinion that abdominal nephrectomy by incision along the linea semi-lunaris is the best operation for the class of cases under consideration, but I do not think it possible to remove such large cysts by incision in the loin.

(8) In the case of a weak patient, or one advanced in years, supposing the abdomen to have been opened, it might be the safer procedure to open the cyst and drain from the loin. This operation is safer than nephrectomy, but it usually leaves a permanent fistula.

(9) In view of the symptoms observed in the two cases reported, I think it would be advisable in completing the operation of abdominal nephrectomy to secure drainage by making an opening in the loin.