oped a condition which closely resembled cretinism. An identical condition may follow extirpation of the thyroid in man. Kocher, of Bern, found that after complete extirpation a cachectic condition followed in many cases, the symptoms of which are practically identical with those of myxœdema. The disease follows only a certain number of total and a much smaller proportion of partial removals of the thyroid gland. Of 408 cases, in 69 the operative myxœdema developed. It has been thought that if a small fragment of the thyroid remains, or if there are accessory glands, which in animals are very common, these symptoms do not develop. It is possible that in men, in the cases of complete removal, the accessory fragments subserve the function of the gland. Operative myxœdema is very rare in this country; the only case of which I know is a patient of McGraw's, of Detroit.

It is evident that the thyroid gland supplies some essential secretion of first importance to normal metabolism. What this is or how it acts is at present beyond our knowledge.

The *diagnosis* of the disease is easy. Bright's disease is the only condition for which it could be readily mistaken, but the absence of pitting, the curious condition of the face, and the absence of albumen in the urine are features which would readily distinguish it.

Unfortunately, no satisfactory treatment is known. The patients suffer in cold and improve greatly in warm weather. They should, therefore, be kept at an even temperature, and should, if possible, move to a warm climate during the winter months.

SECTION VII.

DISEASES OF THE KIDNEYS.

I. ANOMALIES IN FORM AND POSITION.

Anomalies in Form.—These rarely come within the scope of the physician. Atrophy or congenital absence of one kidney is associated with great enlargement of the other organ. Fused kidneys may have a horseshoe shape, or both organs may form a large mass, which is often displaced, being either in an iliac fossa or in the middle line of the abdomen, or even in the pelvis. Under these circumstances it may be mistaken for a new growth. In Polk's case the organ was removed under the belief that it was a floating kidney.* The patient lived eleven days, had complete anuria, and it was found post mortem that a single unsymmetrical kidney, as this form is called, had been removed.

Movable Kidney

(*Floating Kidney; Palpable Kidney; Ren mobilis; Nephroptosis*).

The kidney is held in position by its fatty capsule, by the peritonæum which passes in front of it, and by the blood-vessels. The lower edge of the left kidney is nearly two inches from the iliac crest, a little below the level of the second lumbar spine; that of the right is usually from one half to three quarters of an inch lower. Normally the kidney is firmly fixed, but under certain circumstances one or another organ, more rarely both, becomes movable. In rare cases the kidney is surrounded, to a greater or less extent, by the peritonæum, and is anchored at the hilus by a mesonephron. Some would limit the term floating kidney to this condition.

Movable kidney is almost always acquired. It is most common in women. Of the 667 cases collected in the literature by Kuttner, 584 were in women and only 83 in men. It is more common on the right than on the left side. Of 727 cases analyzed by this author, it occurred on the right in 553 cases, on the left in 81, and on both sides in 93. The

* New York Medical Journal, 1883.

greater frequency of the condition in women may be attributed to compression of the lower thoracic zone by tight lacing, and, more important still, to the relaxation of the abdominal walls which follows repeated pregnancies. This does not account for all the cases, as movable kidney is by no means uncommon in nulliparæ. Drummond believes that in a majority of the cases there is a congenitally relaxed condition of the peritoneal attachments. Wasting of the fat about the kidney may be a cause in some instances. Trauma and the lifting of heavy weights are occasionally factors in its production. The kidney is sometimes dragged down by tumors. The greater frequency on the right side is probably associated with the position of the kidney just beneath the liver, and the depression to which the organ is subjected with each descent of the diaphragm in inspiration.

And, lastly, movable kidney is met with in many cases which present that combination of neurasthenia with gastro-intestinal disturbance which has been described by Glénard * as *enteroptosis*.

To determine the presence of a movable kidney the patient should be placed in the dorsal position, with the head moderately low and the abdominal walls relaxed. The left hand is placed in the lumbar region behind the eleventh and twelfth ribs; the right hand in the hypochondriac region, in the nipple line, just under the edge of the liver. Bimanual palpation may detect the presence of a firm, rounded body just below the edge of the ribs. If nothing can be felt the patient should be asked to draw a deep breath, when, if the organ is palpable, it is touched by the fingers of the right hand. Various grades of mobility may be recognized. It may be possible barely to feel the lower edge on deep palpation—*palpable kidney*—or the organ may be so far displaced that on drawing the deepest breath the fingers of the right hand may be in a thin person slipped above the upper end of the organ, which can be readily held down, but cannot be pushed below the level of the navel—*movable kidney*. In a third group of cases the organ is freely movable, and may even be felt just above Poupart's ligament, or may be in the middle line of the abdomen, or can even be pushed over beyond this point. To this the term *floating kidney* is appropriate, whether the organ has a mesonephron or not.

And, lastly, a dislocated kidney may become fixed in an abnormal position. This is extremely rare, and in a very large number of cases I have found only one instance of the kind. A woman, aged twenty-nine, with four children, had nervous symptoms with abdominal pain, and had been much worried by the discovery of a tumor, just to the right of the middle line, close to the navel. It was not movable, but the distinctly reniform shape and the depression at the left margin indicated that it was doubtless a dislocated kidney which had become fixed.

* Revue de Médécine, 1887; Pourcelot, Paris Thesis, 1889.

The movable kidney is not painful on pressure, except when it is grasped very firmly, when there is a dull pain, or sometimes a sickening sensation. Examination of the patient from behind may show a distinct flattening in the lumbar region on the side in which the kidney is mobile.

Symptoms.—In a large majority of cases the condition gives no trouble, and it is well, if detected accidentally, not to let the patient know of its presence. In other instances there is pain in the lumbar region or a sense of dragging and discomfort, or there may be intercostal neuralgia. In a large group the symptoms are those of neurasthenia with dyspeptic disturbance. In women the hysterical symptoms may be marked, and in men various grades of hypochondriasis. The gastric disturbance is usually a form of nervous dyspepsia. Dilatation of the stomach has been observed, owing, as suggested by Bartels, to pressure of the dislocated kidney upon the duodenum. This view has been supported by Oser, Landau, and Ewald. On the other hand, Litten holds that the dilatation of the stomach is the cause of the mobility of the kidney, and he found in 40 cases of depression and dilatation of the stomach 22 instances of dislocation of the kidney on the right side. My own experience coincides with that of Drummond, who has very exceptionally found the two conditions to coexist. While not denying the possibility of causal relationship between the two, it seems probable, considering the frequency of floating kidney, that the complication is only a coincidence. The association, however, with a *depressed* stomach is certainly not uncommon in women. Constipation is not infrequent. Some writers have described pressure upon the gall-ducts, with jaundice, but it is not very likely to occur.

Under the name *enteroptosis*, Glénard has described a special symptom group characterized by nervous dyspepsia, prolapse of the abdominal organs, particularly the transverse colon, with looseness of the mesenteric and peritoneal attachments, so that there is a falling down of the viscera (splanchnoptosis). Dilatation of the stomach and mobility of the kidney are very commonly associated with this state. Glénard held that he could feel the prolapsed transverse colon as a narrow band, but Ewald states correctly that this is the pancreas, which in many of these cases can be distinctly palpated. According to Glénard, the kink in the colon causes the constipation, while the depression of the stomach and intestines leads to vascular disturbance and impairment of the motor and secretory functions.

In floating kidney there are attacks (simulating gastralgia or renal colic) characterized by severe abdominal pain, chills, nausea, vomiting, fever, and collapse. Scarcely any mention is made of such symptoms, which were first described by Dietl in 1864, and a more wide-spread knowledge of their occurrence in connection with this condition is desirable. My attention was called to them in 1880 by Palmer Howard in the case of a stout lady, who suffered repeatedly with the most severe attacks of abdominal pain and vomiting, which constantly required morphia. A

tumor was discovered a little to the right of the navel, and the diagnosis of probable neoplasm was concurred in by Flint (Sr.) and Gaillard Thomas. The patient lost weight rapidly, became emaciated, and in the spring of 1881 again went to New York, where she saw Van Buren, who diagnosed a floating kidney and said that these paroxysms were associated with it in a gouty person. He cut off all stimulants, reassured the lady that she had no cancer, and from that time she rapidly recovered, and the attacks have been few and far between. In this patient any over-indulgence in eating or in drinking is still liable to be followed by a very severe attack. These attacks may also be mistaken for renal colic, and the operation of nephrotomy has been performed.

In other instances the attacks of pain may be thought to be due to intestinal disease or to recurring appendicitis. The cause of these paroxysmal attacks is not quite clear. Dietl thought they were due to strangulation of the kidney or to twists or kinks in the renal vessels due to the extreme mobility. During the attacks the urine is sometimes high-colored and contains an excess of uric acid or of the oxalates. It is stated, too, that blood or pus may be present. The kidney may be tender, swollen, and less freely movable. Intermittent hydronephrosis has sometimes been associated with movable kidney.

The *diagnosis* is rarely doubtful, as the shape of the organ is usually distinctive and the mobility marked. Tumors of the gall-bladder, ovarian growths, and tumors of the bowels may in rare instances be confounded with it.

Treatment.—The kidney has been extirpated in many instances, but the operation is not without risk, and there have been several fatal cases. Stitching of the kidney—nephrorrhaphy—as recommended by Hahn, is the most suitable procedure, and statistics recently published by Keen show that relief is afforded in many cases by the procedure. It does not, however, always succeed.

The treatment by trusses and bandages is not satisfactory, though great relief is sometimes obtained. As a rule, bandages, with pads pressing to the right of the navel, are not well borne, as the kidney is often sensitive. In some instances, however, the greatest relief is experienced by this procedure. An air-pad beneath the bandage, as recommended by Newman, is probably the best. In other cases a broad bandage well padded in the lower abdominal zone pushes up the intestines and makes them act as a support. In the attacks of severe colic morphia is required. When dependent, as seems sometimes the case, upon an excess of uric acid or the oxalates, the diet must be carefully regulated.

II. CIRCULATORY DISTURBANCES.

Normally the secretion of urine is accomplished by the maintenance of a certain blood-pressure within the glomeruli and by the activity of the renal epithelium. Bowman's views on this question have been generally accepted, and the watery elements are held to be filtered from the glomeruli; the amount depending on the rapidity and the pressure of the blood current; the quality, whether normal or abnormal, depending upon the integrity of the capillary and glomerular epithelium; while the greater portion of the solid ingredients are excreted by the epithelium of the convoluted tubules. The integrity of the epithelium covering the capillary tufts within Bowman's capsule is essential to the production of a normal urine. If under any circumstances their nutrition fails, as when, for example, the rapidity of the blood-current is lowered, so that they are deprived of the necessary amount of oxygen, the material which filters through is no longer normal (i. e., water), but contains serum albumen. Cohnheim has shown that the renal epithelium is extremely sensitive to circulatory changes, and that compression of the renal artery for only a few minutes causes serious disturbance.

The circulation of the kidney is remarkably influenced by reflex stimuli coming from the skin. Exposure to cold causes heightened blood-pressure within the kidneys and increased secretion of urine. So also in the chills of malaria, after which a large amount of pale urine may be passed.

Congestion of the Kidneys.—(1) *Active Congestion; Hyperæmia.*—Acute congestion of the kidney is met with in the early stage of nephritis, whether due to cold or to the action of poisons and severe irritants. Turpentine, cubebs, cantharides, and copaiba are all stated to cause extreme hyperæmia of the organ. The most typical congestion of the kidney which we see post mortem is that in the early stage of acute Bright's disease, when the organ may be large, soft, of a dark color, and on section blood drips from it freely.

It has been held that in all the acute fevers the kidneys are congested, and that this explained the scanty, high-colored, and often albuminous urine. On the other hand, by Roy's oncometer, Walter Mendelson has shown that the kidney in acute fever is in a state of extreme anæmia, small, pale, and bloodless; and that this anæmia, increasing with the pyrexia and interfering with the nutrition of the glomerular epithelium, accounts for the scanty, dark-colored urine of fever and for the presence of albumen. In the prolonged fevers, however, it is probable that relaxation of the arteries again takes place. Certainly it is rare to find post mortem such a condition of the kidney as is described by Mendelson. On the contrary, the kidney of fever is commonly swollen, the blood-vessels are congested, and the cortex frequently shows traces of cloudy swelling. However, the circulatory disturbances in acute fevers are probably less im-