tumor was cut off and the pedicle (artery, vein and ureter) tied with two heavy silk ligatures. No part of the kidney or its capsule was left behind.

Several large vessels in the perinephritic tissue required ligation, and as the patient had lost a large amount of blood, the cavity was packed with strips of iodoform gauze in a handkerchief of the same to stop the oozing, which was considerable. The edges of the openings in the anterior and posterior peritoneum were then united by a continuous catgut suture, thus shutting off the peritoneal cavity. The upper part of the abdominal incision was closed, a small opening being left at its lower end. The gauze was removed on the third day. There was some necrosis of the torn and crushed tissue rendering necessary daily irrigation with hydrogen peroxide.

Recovery was rapid and uneventful. Owing to the silk ligatures there was still a small sinus when he left the hospital.

Some weeks after his return to Cape Breton, he resumed his work as lighthouse keeper.²

Dr. W. F. Whitney, who examined the tumor, reported as follows: "The tumor of the kidney was a large, irregularly, rounded mass, the size of the head of a child at term. Microscopic examination showed it to be made up of masses of large epithelial cells separated by a coarse framework of connective tissue. In places, the cells were packed solidly into the spaces of the framework, in others, there was an evident lumen with the cells arranged about it, in this respect recalling the tubules of the kidney. The diagnosis is cancer of a marked glandular type."

The percentage of recoveries after removal of the cancerous kidney is small. One of the later surgical text-books speaks of the operation as one not considered justifiable by the best surgical authorities. The present case shows that this opinion is not correct in all cases. Here we had to do with a cancerous growth still confined to the kidney, and probably not of long duration. The result has certainly justified the operation.

A CASE OF LARGE CYST OF THE KIDNEY; NEPHRECTOMY; RECOVERY.¹

BY ERNEST W. CUSHING, M.D., BOSTON, MASS.

Mrs. S., forty-two years old, entered the Charity Club Hospital on March 13, 1892, for operation on a ruptured perineum of old standing. On examination it was found that she had an abdominal tumor about the size of a cocoanut, situated on the left side, at and above the level of the umbilicus, freely movable, but apparently limited in its movements by attachments on its upper part as it could not be made to descend into the pelvis. The uterus and its appendages appeared to be in a normal condition, except that there was a moderate degree of procidentia; no connection between the tumor and the pelvic organs could be discovered. The urine was normal in amount and in its properties and reactions.

The patient, who was married and the mother of five children, stated that she first noticed a small swelling, in the region now occupied by the tumor, when she was sixteen years old, this mass was always freely

movable, but was not painful; when she was twenty years old the mass seemed as large as an orange, and now she began to suffer frequently from attacks of nausea and vomiting which recurred at irregular intervals of three or four weeks, and which were always attended with considerable enlargement of the tumor. The most severe of these attacks had occurred about five years previous to her admission to the hospital, when she was quite seriously ill for several weeks. Ever since that attack the tumor had been larger, being of nearly or quite its present size, with occasional periods when it was larger.

A probable diagnosis of wandering kidney with cystic enlargement was made, but the patient did not desire operation for its removal. The perineum was therefore repaired in the usual manner and the convalescence was uninterrupted and recovery complete. Under ether it was very clear that the tumor was not connected with the uterus or its appendages, unless possibly by a very long pedicle, complicated and masked by the presence of new attachments above.

Three weeks after the operation on the perineum, when the patient was just ready to leave the hospital, she had an attack of vomiting with abdominal pain, which she said was like previous attacks only rather more severe. The tumor began to increase rapidly in size until at the end of three days it was larger than a man's head, while severe constitutional symptoms were developed; the temperature rose to 104° degrees and the pulse was 130 and over. The urine was clear and free from albumen. Under these circumstances death seemed imminent and when the state of affairs was explained to the patient she desired surgical relief. The diagnosis was too obscure and the condition of the abdominal contents too uncertain to warrant any attempt to reach the tumor and evacuate it through the loin, and I determined to perform abdominal section at once. Therefore, on April 7th I operated, commencing with an exploratory incision below the umbilicus, in the median line. I soon found that the tumor was not ovarian and that there was no sign of peritonitis; the incision was next extended some two inches above the umbilicus, over the most prominent part of the tumor, this was found to be covered by the peritoneum of the posterior abdominal wall, which was incised, and working carefully the upper part of the thin cyst was enucleated. A large trocar was now plunged into the cyst and more than a gallon of foul urine was evacuated, but still the cyst was not entirely emptied, appearing to be in several compartments. The kidney being entirely disorganized and the ureter apparently occluded, it seemed necessary to complete the removal of the organ, which was accomplished without especial difficulty. By careful enucleation the ureter was presently brought into view; this was followed down as far as possible, ligated with catgut, severed and dropped. The lower part of the cyst was extremely thin and in attempting to separate it from its connections it ruptured, and some urine escaped into the abdominal cavity. Nevertheless, the whole of the kidney was enucleated, the pedicle formed by the vessels which was some three inches distant from the origin of the ureter, was securely sewed off with catgut, using the shoemaker's stitch, the bed of the tumor was carefully cleansed with sponges, and then the whole abdominal cavity thoroughly flushed with hot distilled water. Two glass drainage-tubes were inserted, one to the bottom of the bed of the tumor com-

¹ Read before the Surgical Section of the Suffolk District Medical Society, May 4, 1892.

² August 27, 1892, he was strong and well.

ing out obliquely at the upper angle of the incision, the other at the lower angle of the wound and reaching to the bottom of the space of Douglass. Curiously enough the lower tube took all the drainage for while nothing could be drawn from the upper tube after the first few hours there was a free discharge stained with blood for two days from the lower tube.

Convalescence was uneventful except that there was some mental aberration for about a fortnight; the patient lived mostly on koumiss, which she demanded in large quantities, refusing almost every thing else. The upper tube was removed on the night of the day after the operation, the lower tube the subsequent morning. The wound healed by first intention, and the patient is now in good condition, four weeks after the operation. The urine is abundant and normal.

NOTE. -- September 9, patient well five months after operation.

Medical Progress.

RECENT PROGRESS IN FOODS, DRUGS AND ARTICLES OF DOMESTIC USE.

BY B. F. DAVENPORT, M.D.

(Concluded from No. 10, page 241.)

SMOKING OPIUM.⁹

OPIUM is not considered as fit for smoking purposes until it has undergone a fermentative change which, if spontaneous, usually requires not less than ten or twelve months. The opium thus acquires a kind of bouquet more or less delicate, which is appreciated by the smoker, and in particular it has lost the rank odor and acrid taste of burnt horn which characterizes newly-made opium. Also, the kneading of the paste becomes more easy, and the pipe can be smoked without further delay.

M. Lalande published in the *Archives de Médecine Naval et Coloniale*, of 1891, a very complete chemical account of smoking opium, ascribing its peculiarities to fermentative changes. This led M. Calmette, of the Laboratory of Neurobiology, at Saïgen, to study the subject, for if the opium could be prepared for consumption in one to two months instead of ten to twelve, the Custom House and Régies would immediately have at their command a capital of 1,500,000 francs, that being the value of the opium undergoing spontaneous fermentation.

In the vats producing the best opium, he found only *aspergillus* and mucous, bacteria proper being almost entirely absent. The very best old opium he found to have perfectly pure cultures of *aspergillus niger*. He found it was very easy to raise cultures of this upon M. Raulin's fluid, which when transplanted to opium would germinate easily and run over all its surface forming a wrinkled velvet crust. This fungus will complete the desired fermentation in at most a month, destroying the glucose and dextrine, and changing the tannic into gallic acid, giving it all the qualities of old opium already some years old.

SUGAR, MOLASSES AND SYRUP.¹⁰

Collections of fifty samples each of sugar, molasses and syrup have been made for the United States De-

partment of Agriculture in Massachusetts, New York, Pennsylvania, Louisiana, California, Nebraska, Kentucky, Ohio, Indiana and District of Columbia.

The total absence of any added substance to commercial sugar is proven by the results upon these 500 samples thus purchased in the markets of these widely different sections of the country. The chief adulterant, if it can be so called, of low-grade sugars, is water. In these, by modern methods of boiling, much water can be incorporated and the sugar made to show almost a white color. This is accomplished by the use of bone-black, and a low temperature in the vacuum pan, for by the black the syrup can be nearly or quite decolorized, and by boiling at 115° to 120° F., a soft crystal is obtained, capable of holding a large percentage of water, and reducing sugar. These sugars find ready sale for cooking purposes. For a given sum, however, a greater quantity of sweetening matter is obtained by purchasing the high grade sugars.

During the process of manufacture all, white as well as yellow sugars, are usually colored some. The white with a wash of ultra-marine blue, to give it a still whiter and brighter appearance. The yellow sugars are also treated with a dilute wash of tin chloride or crystals to cause it to retain its bright color, and not to become of a dead or grayish-yellow. The depth of yellow color set in the sugar depends largely upon the strength of the tin chloride solution. Very little of the solution, however, remains in the sugar, as it mostly passes into the molasses, from which it will, if allowed, mostly settle out. Granulated white sugar derived from beets is liable to develop a characteristic foul odor if kept in tight-closed vessels.

The most proper distinction between molasses and syrup is that the former is the natural product of the manufacture of sugar-cane, sorghum or maple sap, or any product from which a part of the sugar has been removed. Syrup is the product of the refining of these products, or the mixing of various other articles together. No table syrup made from beets is known, for, made from unrefined beet-sugar or the molasses resulting from the manufacture of beet-sugar, it would contain so large a quantity of alkaline materials as to render it unfit for use on the table or even for culinary purposes.

The purpose of admixing glucose with molasses is not now to cheapen the product, as the glucose is not a cheaper substance now that the price of molasses has fallen so low. It is to heighten the value of the mixture by reason of its fine body and lighter shade of color. A glucose mixture is readily detected by its high polarization, both before and after inversion, and by the comparatively low percentage of sucrose. The light color in molasses and syrup, for which there is a strong demand, is also brought about by the use of bleaching agents; and much of the dark, centrifugal molasses from Louisiana is reported to be thus treated before being sold in Northern markets.

TEA AND COCOA.¹¹

The names designating the different kinds of tea depend upon the manner of curing the leaf and its relative age, and not, as popularly supposed, to difference in species. The tender, unexpanded, terminal leaf forms the Flowery Pekoe, the next older leaf the

⁹ Rev. Scientifique, February 27, 1892.

¹⁰ Bull. No. 13, Part 6, Division of Chemistry, United States Department of Agriculture.

¹¹ Bulletin No. 13, Part 7, Division of Chemistry, United States Department of Agriculture.