

and is not affected by alcohol or acetic acid. With Van Gieson's stain it is stained yellow or brownish yellow; with eosin and hematoxylin it stains slightly with both the nuclear and the diffuse stain. The consistence of the thyroid colloid varies greatly; at times it is very firm, more often gelatinous, while occasionally it is fluid and soluble in water. It contains the active substance of the thyroid, iodothyron, which is most probably an albuminous body. It is very probable that the chemical nature of the thyroid colloid is not always the same.

Colloid-like Substances.—These in general resemble the colloid of the thyroid, and are found in the hypophysis cerebri, parotid, renal tubules, prostate, ovarian and parovarian cysts, mammary gland, pancreas, etc. The corpora amylacea of the nervous system and lung are also to be included here. In all cases the colloid-like substance appears in the form of a smooth, homogeneous mass filling up the gland lumen or duct, or it may appear in the form of hyaline or laminated concretions. The colloid-like bodies of the kidney tubules are known as casts, and are of great clinical importance from their occurrence in the urine in pathological conditions of the kidneys (various forms of nephritis).

Though all of these bodies bear such a close general resemblance to each other, exhibiting similar reactions with ordinary stains, they cannot be identical in their chemical nature either with the true colloid of the thyroid or with each other. Some of them give a characteristic reaction with iodine, others do not, but this varies so much that it cannot be used as a means of classification. We are therefore compelled at the present to apply the term colloid to substances derived from gland cells, which are hyaline, possess a certain degree of firmness, and do not give the reaction for mucin or pseudo-mucin. Beyond this uncertain classification our terminology does not take us.

Aldred Scott Warthin.

COLLOID DEGENERATION OF THE SKIN.—This is a very rare affection of the skin, first described by Wagner as colloid milium. Hardly more than half a dozen cases of this rare disorder have been reported. It occurs chiefly upon the upper two-thirds of the face, especially upon the cheeks, forehead, and around the orbits; it has also been observed on the cornea and the septum nasi. The lesions form slowly—singly or in groups, never becoming confluent. They consist of pinhead- to millet-seed- or split-pea-sized, flattish, or irregularly rounded lemon-yellow colored papules, having a peculiar glistening, translucent appearance, that suggests their being vesicles, but when pricked only a small amount of a gelatinous substance accompanied by a droplet of blood can be expressed. Occasionally slightly dilated vessels surround the papules. Frequently a depression appears in the centre of the papule and increases in depth until the surrounding elevation disappears altogether; all that remains being a slight depression in the skin. Or, the part becoming inflamed, a scab forms over it and eventually drops off, leaving a mark, but no true cicatrix. The cause of the disease is unknown. It occurs in both men and women from the age of sixteen upward, no deviation from the normal health accompanying the disease to account for it. Most of the cases reported were in individuals living an out-of-door life much exposed to the weather.

Wagner at first thought that the cause began in the sebaceous glands, but this view has been practically discarded. Balzer considers that the colloid degeneration commences as an infiltration in and around the connective-tissue fibres and cells of the upper part of the corium. This change occurs especially in the neighborhood of the sebaceous glands and about the vessels and nerves. The glands themselves and all epithelial structures—except the endothelium of the vessels—escape. Balzer could not determine the point clearly, but he thought it probable that the affection was due to primary vascular changes. The disease is not identical with hydradenoma, as Philippson endeavored to prove, though the differential diagnosis is often very difficult or even impossible without the aid of histological examination. From xanth-

oma, with which it most often is confounded, it may be distinguished by the glistening, translucent appearance of the lemon-yellow-colored elevations.

Treatment is unsatisfactory, no external application having any effect. Erosion with a sharp spoon has cured some cases, and electrolysis has been recommended and would seem best fitted to cope with the trouble without leaving very marked scars.

Charles Townsend Dade.

COLOCYNTH.—**COLOCYNTHIN.** "The fruit of *Citrullus Colocynthis* Schrad. (fam. *Cucurbitaceae*), deprived of its rind" (U. S. P.). The colocynth plant bears a general resemblance to the water and citron melons—near connections—but is smaller, slenderer, and besides rough-hairy,

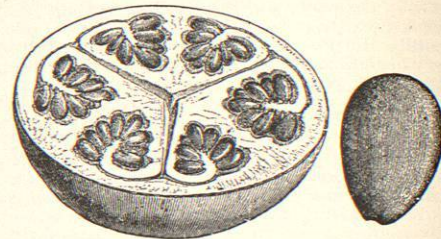


FIG. 1467.—Colocynth Fruit and Seed.

while the others are more nearly smooth. The fruit is globular, from two to four inches (10 to 20 cm.) in diameter, with a thin, leathery, mottled-green rind, and a fleshy, very bitter pulp. The latter consists of the mesocarp and three thick parietal placentae which entirely fill the cavity and make a spuriously three- or six-celled, out of a normally one-celled, ovary.

The plant is widely distributed over waste and desert places in India, Arabia, Syria, the "Levant," the Mediterranean islands, Northern and Western Africa, the Cape of Good Hope, Java, etc. In the Arabian desert, a resinous extract from the fruit is painted upon the water bags to protect them against attacks by the thirsty camels. It also grows in Spain and other portions of the extreme South of Europe, and has, in addition, been cultivated in several countries for many centuries. Cyprus, the South of Spain, and the African town Mogador, supply it for the market. It is collected when the fruit is ripe, or nearly so, and, in the European varieties, is usually peeled while fresh with a knife. The Mogador colocynth is oftener "coated," that is, dried without removing the exocarp. The soft, moist, greenish-white pulp shrivels considerably as it dries, and becomes nearly white, and very light and spongy. The composition and properties differ with the place of production. Some fruits grown in Texas were of prodigious size, but destitute of medicinal power.

DESCRIPTION.—As usually imported, colocynth comes in very light and brittle round balls, from one and a half to three inches in diameter (0.04 to 0.08 metre), composed of a nearly white, very fragile, cellular tissue; evidently cut over the surface with a knife, and containing numerous white or whitish cucumber-like seeds in six rows. These "balls" are easily broken into three parts, each including one of the placentae, with a row of seeds on each of its two broken faces. The seeds, which, although of little bulk compared with the rest of the fruit, weigh heavily, contain seventeen per cent. of bland fixed oil, and have no medicinal value. They are thrown away when the pulp is prepared for use. This consists of exceedingly large and thin-walled parenchyma, enclosing about two per cent. of its weight of bitter extractive (colocynthin). The variety described above is Turkish colocynth. The Spanish variety is smaller, has a dark and much less spongy pulp and a larger number of heavier, black or blackish seeds. Not only is the per-

centage of pulp smaller, but it is also inferior. Colocynth pulp, freed from seeds, ground or whole, is an article of commerce. The presence of starch is an indication of adulteration, as this is wanting in the genuine article.

Composition.—The active constituents of colocynth are resin and colocynthin. The crystalline resinous body colocynthin is not active. Gum and pectin are also present. Colocynthin ($C_{16}H_{17}O_{11}$) is a yellow, powdery, bitter glucoside, soluble in both water and alcohol. It is purgative, but Merck claims that his is not poisonous or drastic like colocynth.

Colocynth itself is a harsh and irritating drastic, and seldom given alone. In small doses, and modified by other cathartics and corrigents, it is an excellent laxative, and in frequent use as a "dinner pill" in chronic constipation.

ADMINISTRATION.—There is but one immediate preparation, namely, the Extract of Colocynth (*Extractum Colocynthis*, U. S. P.), made by evaporating a tincture. The yield is about sixty per cent. of the pulp. Dose, say 0.03 to 0.12 gm. (gr. ss.-ij.). It is seldom used alone, but enters into the Compound Extract of Colocynth (*Extractum Colocynthis Compositum*, U. S. P.), which is in every-day use. Its formula is:

Extract of colocynth	16
Purified aloes	50
Cardamom	6
Resin of scammony	14
Soap	14
Alcohol	10

It is a fine powder, easily rolled into a pill itself, or mixed with still other substances. Dose, as a laxative, 2 or 3 dgm.; as a cathartic, five or six times as much (gr. v. ad xxv.). The Compound Cathartic Pills (*Pillule Cathartice Compositae*, U. S. P.) contain about one-third of their weight of this extract. Their composition is:

	Gm.
Compound extract of colocynth	80
Extract of jalap	30
Mild chloride of mercury	60
Gamboge	15

Mix and make one thousand pills. Dose, from one to three pills.

The compound extract is also an important ingredient of the official vegetable cathartic pills.

Pure colocynthin can be given in doses of gr. $\frac{1}{2}$ to $\frac{3}{4}$. A resinous extract is also in the market under the name colocynthin.

Merck recommends, as a purgative rectal injection, π iv. to xvi. of a four-per-cent. solution of colocynthin in equal parts of glycerin and alcohol.

Henry H. Rusby.

COLON. (SURGICAL.)—The colon is wounded in the same manner as, though less frequently than, the small intestines. These wounds may occur from penetration of the abdomen by a knife, bullet, or blunt-pointed object, or rupture may occur from a contusion. Perforation from the effort to use the sigmoidoscope has also been reported. Wounds of the colon often occur in the separation of adhesions during intra-abdominal operations. The symptoms of a wound of the large intestine do not differ materially from those which present themselves when the small intestine is injured. Those wounds which are inflicted during operative procedures or in the course of an examination are readily observed. But accidental injuries can often only be surmised, the diagnosis of the part injured being determined only after an exploratory incision. While shock is to be expected in such wounds, it is frequently absent or present in only slight degree. Pain and tenderness are as a rule valuable symptoms, but their absence does not pre-

clude the possibility of a wound. Paresis of the intestine and the resulting constipation usually occur early as the result of the violence producing the injury and later from the development of peritonitis. Vomiting is frequently an important symptom, especially as sepsis from extravasation develops. The presence of free gas in the peritoneal cavity is, if detected, a positive sign of rupture of the bowel. Tympanites over the area of normal liver dulness is a further evidence of this condition. Senn has advised the rectal insufflation of hydrogen gas to determine the presence or absence of an intestinal wound, especially in connection with perforating gunshot wound of the abdomen; the diagnosis is made when the hydrogen escapes from the wound. When this test is successfully made, it proves positively the presence of a wound, but failure of the gas to escape does not exclude injury. This procedure is not devoid of danger, for the increase of intra-intestinal pressure and the escape of the gas into the peritoneal cavity certainly favor faecal extravasation and seriously interfere with any operative procedure which may be necessary. This, coupled with the fact that only in from three to five per cent. of perforating wounds of the abdomen do the viscera escape injury, makes it more advisable to perform an exploratory operation, especially as the latter increases the mortality very slightly, if at all, when done with proper aseptic precautions.

The records of wounds of the colon show a larger percentage of recoveries without operation than do similar injuries of the small gut, owing perhaps to the consistence of its contents and to less active peristalsis. These injuries are always serious and require prompt attention, as every hour of delay lessens the chance for recovery. Notwithstanding the number of reported recoveries without operation, the surgeon is certainly not justified in treating these cases expectantly. The method of dealing with intestinal wounds will be fully covered in another portion of this work. It is sufficient to state in this connection that the technique must be thorough and the closure perfect, sufficient lumen for the ready passage of faeces being allowed.

ULCERATION.—Ulceration of the colon assumes surgical importance when a tendency to perforation or to the development of stricture results. The causation and clinical history of many of these ulcerations are somewhat obscure. However, we meet with certain ulcers which present characteristics sufficiently distinct to be properly classified as dysenteric, typhoid, tuberculous, etc. The colon may be the seat of simple chronic ulcers similar in all respects to those seen in the stomach and duodenum. They occur very rarely, but are sometimes seen in patients suffering from Bright's disease. Vascular changes and emboli probably have much to do with their development. Sometimes a simple large ulcer is present, but as often several smaller ones are found. The edges of the ulcer are raised and slightly indurated, the base is somewhat regular. Healing may occur at one margin while the ulcerative process extends at the other. The ulcer may terminate by repair, and if, as is sometimes the case, it has extended around the intestine, narrowing may result. Perforation of the intestine is not infrequent and may be followed by faecal abscess and fistula or peritonitis and death.¹ Parker reports two cases that terminated in faecal abscess. Collections of faeces retained for a long time in the intestine excite an increased secretion of mucus, produce softening of the epithelium and necrosis of the mucous membrane, and result in the formation of one or more stercoral ulcers. These ulcers may excite a localized plastic peritonitis or they may perforate and cause acute general inflammation of the peritoneum. The shock itself may prove fatal. The sudden onset of pain and prostration in a case of prolonged constipation, especially with the presence of a doughy, irregular, and variable tumor, will point to perforation from stercoral ulcer. Ulceration at the seat of the solitary glands occurs in typhoid fever, and a few cases of perforation from such ulcers have been reported. These ulcers present the same changes which take place in the small intestine. Those ulcers which result from

dysentery or which follow catarrhal colitis show little or no tendency to the formation of stricture. According to Woodward² no case of stenosis was reported as the result of chronic diarrhoea or dysentery among the United States troops from 1861 to 1865, although a vast number of soldiers suffered from these diseases. Syphilitic ulcerations of the large intestine are usually limited to the rectum. They result from the breaking down of gummatous deposits in the submucous tissue. Malignant disease produces ulceration, and stenosis results from cicatricial contraction as well as from the encroachment of the neoplasm. Tuberculous ulceration occurs with great frequency. About one-half of the cases of tuberculosis show lesions in the intestine. The lung is the only organ more often attacked. These lesions are situated most often at the lower part of the ileum and in the beginning of the colon. They may be primary, or secondary to a focus situated elsewhere. In children primary involvement is the rule and the intestinal lesion may be so slight as to escape notice, while the mesenteric glands will be greatly involved. In adults the lesions are more often secondary, and the solitary glands of the cæcum are often involved and show the characteristic deposit of tubercle. This deposit undergoes softening and the cheesy material is emptied into the intestine. An ulcer results which tends to spread around the circumference of the intestine, in the course of the vessels, as well as deeply through the wall. The peritoneum over the ulcer often shows yellowish, opaque tubercles in its structure, the surrounding tissues become adherent, and contraction of the inflammatory product may cause constriction of the intestine. The girdling ulcers tend in their repair to produce stenosis and frequently excite symptoms of obstruction. Perforation of the intestine is by no means infrequent and may give rise to faecal abscess and subsequent fistula or may excite general peritonitis as in simple ulcer. Ulceration of the colon presents few characteristic symptoms; there may, in fact, be nothing to indicate the condition even when marked and extensive lesions are present. Diarrhoea more or less persistent, with periodical constipation, is usually present. Mucus, shreds of tissue, some blood and pus may at times be found in the discharges. In tuberculous ulceration, the patient will lose in flesh and strength and will complain of pain, especially in the lower part of the abdomen. This pain is increased upon slight exertion. Localized tenderness on pressure without rigidity may be noted in these cases, and, as in other tuberculous processes, a slight evening elevation of temperature may be observed. As stricture develops, after the symptoms named above have lasted for months, constipation becomes more and more marked until the stools are completely arrested. In rare cases this condition may occur suddenly and may present the usual symptoms of intestinal obstruction, as nausea, vomiting, pain, distention, and obstinate constipation. Perforation will be known by the shock, distention, pain, tympanites, etc.

Diagnosis.—The diagnosis is at all times difficult, and it is extremely probable that cases of ulceration will be determined only after stenosis occurs, or after exploration.

Treatment.—This is operative, and colectomy should be performed for tuberculous and malignant ulceration when extirpation can thus be effected. The operation is also indicated in other forms of ulceration where perforation is imminent and the process is not too extensive. Tuberculous and malignant cases in which the disease cannot be extirpated are best treated by anastomosis. Extensive ulcerative colitis has been successfully treated by colostomy and flushing the colon from the artificial opening to the anus. Mayo Robson,³ Golding Bird,⁴ and others have reported cases of recovery after this plan of treatment.

STENOSIS.—Non-malignant stenosis may follow almost any form of ulceration, but the most frequent process is one of a tuberculous nature. The constriction may take place a long time after the ulceration. Owing to this fact strictures are noted more frequently in adults than in children. Many cases of stenosis are unrecognized

during the life of the patient. Two or more points of stricture may be present in the same case. No portion of the colon is exempt from this lesion.

Symptoms.—The chief symptom of stenosis is constipation, which may gradually become more and more persistent or may occur suddenly and become complete. If relieved temporarily, a return of the constipation is to be expected in a short time. The patient will perhaps give a history of troublesome diarrhoea, the passage of some mucus and blood having occurred at some previous time. Obstructive symptoms sooner or later set in, and, while not so marked as in some other forms of obstruction, are very persistent. Uneasiness in the abdomen soon becomes pain which is paroxysmal and is increased by purgatives. The abdomen may become distended, but as a rule it is flaccid unless peritonitis is present. After a time vomiting begins, first of gastric contents, later of feces unless the obstruction is relieved. The patient loses flesh and strength and, after some days of suffering, death follows from sepsis and exhaustion.

Diagnosis.—The symptoms of recurring and more or less obstinate constipation, when associated with emaciation and in the absence of stenosis of the rectum, will usually mean stricture of the colon. Obstruction of the small intestine will usually present a more acute train of symptoms. In stenosis of the colon vomiting is not so prominent a symptom and becomes faecal at a much later date than it does in occlusion of the small gut. The absence of a neoplasm will exclude malignant stenosis.

Treatment.—Avoidance of purgatives will save the patient much discomfort. Copious enemata will give relief during the early stages. When obstruction occurs or attacks of constipation are often repeated, operation is indicated.

FÆCAL FISTULA.—Sinuses leading from the colon to the surface and discharging feces and gas result from wounds which have not been treated or which have been improperly closed; from contusions without immediate rupture but followed by sloughing; and, finally, from slipping of the ligature or sloughing of the stump after operative interference for the relief of appendicitis. The pressure of a drainage tube is not infrequently a cause of this condition. The same is true of gauze drainage, the removal of which sometimes produces a tear of the intestine. Tuberculosis of the colon may cause perforation and thus lead to the formation of faecal fistula. In dealing with strangulated hernia associated with gangrene of the gut, the surgeon may deem it best, if the patient's condition precludes the completion of colectomy, to temporize by the establishment of a faecal fistula to be cured by a subsequent operation (colotomy). In malignant disease the formation of a permanent fistula (artificial anus, colostomy) has become a recognized surgical procedure.

Pathology.—When from any cause the continuity of the intestinal wall is disturbed, gas and feces in a short time escape, and under the most favorable conditions excite a localized plastic inflammation in the surrounding peritoneal surfaces, with the tendency to the formation of adhesions and isolation of the focus of irritation. In time the surface is reached through an abscess—where the abdominal wall is intact—or through the wound if one exists, and the feces then escape externally. When a wound of the abdomen is present, the communication is usually established within a week after the injury. When the abdominal wall is intact, a longer time will elapse before the fistula develops. The general peritoneum is protected by a fibrinous lymph, and the fistula is lined with granulation tissue. When the damage to the colon is slight and when surrounding parts lie in close relation to the wound of the gut, the tract will gradually contract and eventually heal. This is the most frequent termination of such cases. A fistula may persist when the intestine is fixed directly to the skin without intervening sinus, when the wound in the bowel is very large, or when more than one opening exists; also when there is obstruction to the passage of feces.

through the bowel below the fistula, owing to a stricture, tumor, or bend of the intestine. Tuberculous fistulae are very persistent, and repair will be unlikely when an abscess cavity is formed in close proximity to the intestinal opening, due perhaps to a failure of the walls of the abscess to collapse. The symptoms indicating the development of faecal fistula are the presence of a peculiar dark, blackish, brown stain upon the dressings and the detection of a distinct and persistent faecal odor. A mistake is scarcely possible. Some difficulty may be experienced in determining the location of the intestinal opening, but this will prove of little moment. In some instances progressive emaciation accompanies the condition, but usually the patient is well nourished. The prognosis of this condition is as a rule good, and special attention will be demanded only after it persists for some months. The affection is always disagreeable, but its seriousness is certainly less than in the case of a fistula leading to the small intestine.

Treatment.—Upon first impulse it would appear reasonable to insert drainage in some form to remove the feces and to keep the skin wound patulous. Considerable experience in such cases teaches us that such a procedure is unnecessary and frequently productive of harm, owing to the fact that no drain will carry off the feces as well as the pressure within the intestine. Moreover, when the faecal matter remains pent up in the tract, symptoms of sepsis shortly appear. The condition is best treated by placing over the external opening a large loose pad of sterilized absorbent material, and retaining it in place by a bandage. These dressings should be changed whenever they become soiled; sometimes this is necessary as often as four or five times a day. When the dressings are changed, gentle pressure near the fistula will force out the contents and cleanse the tract. The skin should be washed with cold water and alcohol, and when any excoriation occurs the parts should be anointed with vaseline at each dressing. The bowel below the fistula should be kept patulous by enemata to make the passage easier in that direction than through the abnormal tract. Laxatives should be used only to prevent constipation and too great solidity of excreta.

The patient's health should be kept up by tonics and nutritious, easily digestible food. If, after several months of this treatment, the fistula persists or if emaciation is rapid, an operation for the cure of the affection should be undertaken. This operation is often very difficult, but, with proper care to protect the general peritoneum, it can usually be safely accomplished. Cleansing of the field of operation must be absolute. The tract should be well scraped and thoroughly flushed with 1 to 1,000 bichloride solution. In curetting the fistula care must be exercised to avoid injury of an adjacent fold of intestine. The application of pure carbolic acid to the tract is advisable, and this should immediately be followed by the application of about eighty-per-cent. alcohol to prevent too extensive action. In order that the canal may easily be traced it should be packed with gauze. The incision should be made with the greatest care to avoid injury of the bowel, which is almost always adherent to the abdominal wall around the fistula. Therefore begin the cut some distance away from the fistula, and after the peritoneum is opened, with the finger inside the abdomen, separate the adhesions until the incision can be safely continued. Protect the general peritoneum with flat gauze sponges. When the tract is short the intestine can be readily loosened, lifted into the wound, and sutured or resected. When the bowel lies six or eight inches from the outlet of the fistula, considerable dissection will be necessary to free the adhesions and this requires the greatest care. The edges of intestinal openings are pared if necessary and coated by Lembert sutures of fine silk. Usually a second supplementary series of sutures will be necessary. When the intestinal wound is so large that the lumen of the gut will be constricted, a colectomy will be necessary. The toilet of the peritoneum must be made in the most thorough fashion, and after the tract of the fistula in the abdominal wall has

been excised, the wound may be closed completely—provided the operator is convinced that the peritoneum has not been soiled—or it may be left sufficiently open to provide the necessary drainage outlet. The old method of closing an artificial anus by the pressure of a clamp, as advised by Dupuytren in 1815, certainly has no advantages over the operation just described and is not to be recommended.

INTUSSUSCEPTION; INVAGINATION.—The abnormal reception of a portion of the intestine within an adjoining and continuous segment constitutes an intussusception. This condition may develop in any part of the canal, but is most likely to occur at the ileo-cæcal valve. It forms about forty per cent. of all fatal cases of intestinal obstruction. According to Treves, fifty per cent. of such cases occur under two years of age. At the point of invagination three thicknesses of the intestinal wall lie in close proximity to each other. The outside fold is known as the receiving layer or intussusceptum, the internal as the entering layer, and the middle is called the returning layer. The last two are also known as the intussusceptum. The peritoneal coverings of the entering (internal) and the returning (middle) layers lie in contact and in a short time become firmly united, while the mucous surfaces of the receiving and returning folds show no such tendency.

The descent of the gut exerts traction upon the mesentery and compression of its vessels at the point of invagination, thus producing venous obstruction with swelling and edema of the intussusceptum. Softening and gangrene may produce perforation, or bacteria may multiply rapidly in the congested wall and excite a rapidly fatal form of peritonitis. In rare cases nature effects a cure through sloughing of the invaginated segment, after adhesions have formed, at the line of entrance, sufficiently strong to prevent rupture. Usually intussusception is acute and rapidly fatal, but in adults one may encounter the chronic form which after two or three weeks of suffering may terminate in recovery, or which may prove fatal through chronic diarrhoea, septic emboli, perforation, peritonitis, etc. As a rule, in children it is quickly fatal. Its causation is not well understood. Spasmodic peristalsis, which forces the contracted portion into a relaxed segment, or a paralyzed segment into a normal one, has been advanced to account for its development. The experiments of Nothnagel seem to show that contraction of the longitudinal muscular fibres will draw a relaxed portion over a contracted one. The presence of polypi is supposed to favor the development of invagination. The anatomical relation of the ileum to the cæcum must also be considered as a predisposing factor.

Symptoms.—The attack begins suddenly with severe griping and colicky pains, accompanied by marked anxiety and shock. Vomiting is usually present, as is constipation after the bowel below the obstruction is emptied of its contents. Some mucus and blood may pass and the tenesmus is marked. Upon examination a sausage-like abdominal tumor can often be detected, especially when the end of the ileum has entered the colon.

The **Diagnosis** is based upon the sudden onset, peculiar pain, sausage-shaped tumor, and the passage of blood-stained mucus without feces. At times the exact cause of the obstruction will be determined only after the abdomen is opened. The prognosis, as incidentally mentioned before, is always grave, and in most cases a fatal termination occurs in less than one week.

Treatment.—Avoid purgatives, and during the first twenty-four hours endeavor to set free the invaginated segment by distention of the colon with gas, air, or water while the patient is in the knee-chest position. Belladonna and opium may be cautiously administered to allay spasm and limit peristalsis. Do not give enough opium to mask the symptoms. If this treatment fails to relieve, a laparotomy should be performed—preferably the median operation, unless a well-defined tumor is present, in which case the incision should be made directly over the