nic poisoning the first effects may be manifested almost immediately or not for a number of days, even after as many as eight or nine. In one recorded case the first effects were shown eight days after ingestion, and recovery was complete within a short time; in another no symptoms appeared until the ninth, and death occurred on the twelfth. The symptoms generally begin with burning pain in the stomach, vomiting, diarrhea and other evidences of gastro-intestinal irritation, but they may, on the other hand, resemble those of narcotic poisoning up to within a short time before death, when those of irritation may appear. Again, no effects whatever may appear for some hours, and then death may follow very quickly after. Thus, in a case in which nothing remarkable occurred until seven hours after the poison was taken and no signs of irritation until the following day, the latter appeared suddenly, and within a half-hour the victim was dead. The onset in food poisoning may appear almost at once or at any time up to four or five days, and the same food shared by a number of people may affect them at widely different times and with different degrees of severity according to the amount eaten. Sometimes, too, different portions of a piece of meat or of a sausage or other food are unequally altered by putrefactive changes or unequally cooked, and thus produce different manifestations. As is the case with arsenic, fatal termination may occur in much less than twenty-four hours or may be postponed many days. In both classes the vomitus is very variable in character and appearance. It is less likely to be bloody in food poisoning, but may on the other hand be quite devoid of any remarkable appearances in poisoning by arsenic. The stools, too, present no uniformity of character in either case, but they are likely to be bloody in arsenic poisoning and to be extremely and unusually offensive in food poisoning. Diarrhea may be present in neither, but instead there may be obstinate constipation.

In arsenic poisoning constriction and heat in throat, cramps in the calves and elsewhere, coldness of the extremities and of the whole surface of the body, weak, almost imperceptible, pulse, anxious countenance, eruptions of different kinds on the skin, great prostration, headache, stupor and convulsions, are common symptoms, and in food poisoning they are equally so. In short, most of the symptoms caused by the one are commonly observed in the other.

There are, however, three notable differences:

In arsenic poisoning we observe heat and constriction in the throat; the patient often finds it difficult to swallow because of the pain which accompanies the effort. In food poisoning these same effects are among the most constant symptoms, and in addition, swallowing and speaking may be even impossible rather than simply difficult. This is *not due to pain*, as in arsenic poisoning, but to involvement of the nerve cells; there is a genuine condition of *paralysis* of the throat, such as is not seen in poisoning by any of the metallic irritants. Sometimes this difficulty is one of the very first symptoms.

A second point of difference is the condition of the pupil. In most of the reported cases of food poisoning of the class which we are considering a marked dilatation of the pupil had been noticed, and in many, also, great impairment of vision and even total blindness. In some cases the eyes react not at all to light. Rarely, instead of dilatation, contraction of the pupils

is noticed, and sometimes the one condition succeeds the other.

A third point of difference is the extent to which the muscular system is involved. In arsenic poisoning there is great prostration, but as a rule the patient is able to stand and walk about, though only with great effort. In food poisoning, on the other hand, it is most commonly the case that the legs refuse to support the body, even when the patient is assisted. In one outbreak, in which over 70 persons were involved, this condition was remarked in almost every case; in another, in which the number of victims was 30, the same condition was noticed in all.

Fortunately, in the matter of treatment, the diagnosis between arsenic and food poisons is not of very great importance. In either case the removal of the offending substances from the alimentary tract by appropriate means and supportive treatment are essential. In doubtful cases the administration of the usual antidote for arsenic can do no harm even though that poison is not present.

In cases of fatal ending the post-mortem appearances are by no means always to be depended upon to clear up doubtful diagnosis. In some cases of fatal arsenic poisoning the lesions are no more extensive than those of food poisoning, although as a rule the latter are slight or wanting.

Clinical Department.

SIMULATED APPENDICITIS.

BY J. G. MUMFORD, M.D., BOSTON.

CASES of simulated appendicitis are so common that it seems as though no new abnormality of the sort could be recorded; yet here is a case which will interest surgeons, I believe.

In a recent address on "Acute Abdominal Symptoms demanding Immediate Surgical Intervention"¹ Dr. M. H. Richardson gave an excellent table, enumerating all such urgent cases, apparently; yet it is hard to say where he would have put this case.

The patient, a young girl of twelve, was brought to the Massachusetts General Hospital. I saw her for Dr. Homans. She was sent in with the diagnosis of appendicitis, made by her physician, and with the statement that an immediate operation seemed imperative. Her past history was a good one. She was a vigorous, well-developed child, with an acute attack of abdominal disease, and this was the third day of her illness. Without warning or known indiscretion in diet she had been seized suddenly with acute agonizing pain in the umbilical region. The pain lasted six hours, when vomiting set in. The character of the vomitus was unknown; at any rate there was some considerable relief from pain for a few hours.

On the second day the pain returned gradually, becoming constantly more severe; situated at first in the right inguinal region, but later extending into the right chest and back. There was then more indefinite vomiting, but without relief from pain. There was "high fever." Castor oil was given on that second day, but was vomited at once. During all this time there had been no movement of the bowels. On the third day, some twelve hours before her entrance to the hospital,

¹ Boston Medical and Surgical Journal, vol. cxli, page 381.

castor oil was given her again. A large number of watery stools followed, but now for ten hours there had been no movement, and it was stated that during that time the abdominal pain had been growing worse steadily.

When I saw the girl she seemed to be in good general condition, flushed and frightened but without the peritoneal facies. Her sublingual temperature was 103° F.; pulse 112; respiration 28. Her abdomen was uniformly distended and tender; extremely tender in that particular region which has come to be known as "McBurney's point," and there her greatest pain was localized. On the right side, too, there was marked muscular rigidity and spasm. No special tenderness was to be made out by the rectum.

The case seemed so clear that I decided to operate at once; and I think any one of my colleagues would have done the same. No blood count was made at the time, but one was made immediately after the operation. The incision was made over the seat of greatest pain, and a distended but otherwise normal-looking cecum discovered, together with a long, normal retrocecal appendix vermiformis. The incision was enlarged and the abdomen carefully explored, but all the viscera were found to be perfectly sound, with the intestines somewhat distended, but healthy in appearance. To be sure a mass which seemed about half the size of a hen's egg had been felt within the cecum, but this was at first taken to be fecal.

After exploring the abdomen I returned to a further investigation of the apparently fecal mass. Careful palpation showed that it was not fecal. It felt like a coil of matted shoe-strings. But it might be a tumor growing entirely within the lumen of the gut. It did not seem freely movable. At any rate its removal was necessary to relieve the patient's symptoms. A two-inch longitudinal incision in the cecum allowed the foreign body to be squeezed out readily. It proved to be a compact mass of orange pulp. The cecum was closed, the abdominal wound sewed up and the patient put to bed. She was relieved of her symptoms, made a good recovery and went home at the end of four weeks.

Another interesting feature of this case was not developed until after the operation: the blood count at the time showed 30,200 whites. Had I received this report before operating, instead of immediately afterwards, I should have felt still more convinced that I was dealing with an acute intra-abdominal inflammation. Two days after the operation the count had come down to 10,500 whites.

Further comment on this case is almost needless, except to point out that the diarrhea following the giving of a dose of castor oil, so far from contraindicating appendicitis, went rather to confirm that diagnosis, when one coupled with those facts the continued and increasing pain and distention suggesting a perforated appendix and spreading peritonitis.

REPORTING CASES OF LEAD POISONING.—A coroner's inquiry has recently been held in the neighborhood of Manchester, England, relative to the supposed death from lead poisoning of a workman at a chloride electrical storage factory. It appears from a statement in the *British Medical Journal* that it is incumbent upon practitioners to report to the Home Office all cases of lead poisoning, as well as poisoning from arsenic and phosphorus.

Medical Progress.

RECENT PROGRESS IN SURGERY.

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D., BOSTON.

(Concluded from No. 23, p. 577.)

THE RESULTS OF VON BRUNS'S SUBPERIOSTEAL AMPUTATION OF THE LEG.

HAHN, in an article on this subject,¹⁸ states that in 1893 Professor von Bruns published an account of his method, which had been employed in 20 cases. He states that at present the total has risen to 81, a sufficient number to draw definite conclusions as to the value of the operation.

A desirable method of amputation of the leg should fulfil the following conditions: It should be easily performed, and the conditions attending wound healing should be of the simplest kind; it must do away with gangrene of the flaps, and, lastly, should give a perfectly shaped stump. The author states that all these requirements are fulfilled in von Bruns's operation.

The skin being well retracted by an assistant, a circular incision involving all the soft parts is carried down to the bone. Two vertical incisions are now made at right angles to the first for about four centimetres, one along the inner border of the tibia down to the bone, the other penetrates between the muscles down to the fibula. Through these incisions the soft parts, including the periosteum, are raised from the bones. The entire mass of soft parts being properly retracted, the bones are sawn through. There remains then anterior and posterior flaps of periosteum, muscles and skin. After ligation of the vessels and trimming of the tendons, the periosteal muscular portion is united over the bones with buried catgut sutures, the skin is united separately after somewhat rounding off the corners. Above the lower third, or where the condition of the soft parts demands it, the circular incision through the skin is made separately and at a somewhat lower level.

Of the 81 cases 63 were in the lower third, 12 in the middle. There were no deaths. Perfect union was obtained in 62, slight disturbances occurred in 11, suppuration and healing by granulation eight times, two requiring reamputation. In only three cases was there gangrene of the flaps—less than four per cent. Each of these cases was attended with conditions specially predisposing to gangrene. In 1882–1888 the amputations in the clinic were attended, according to the author, with a percentage of gangrene of 17. Some collections of statistics give as high as one-third of the cases as resulting in gangrene of the flaps. The after results as regards shape and usefulness of the stump were most satisfactory. In no instance was the scar adherent; equally good results attending the complicated and unfavorable as the good cases.

THE TECHNIQUE OF LARYNGECTOMY.

Keen,¹⁹ in a paper on this subject read before the American Surgical Association, gives the history of a case of epithelial carcinoma on which a thyrotomy was done in May, 1898. In October of the same year it was found that total laryngectomy was necessary, and the author adopted a method which rendered

¹⁸ Beiträge zur klinischen Chirurgie, Band xxii, Heft 2; *Annals of Surgery*, June, 1899, p. 731.

¹⁹ *Annals of Surgery*, July, 1899, p. 1.