

TRANSACTIONS
OF THE
PHILADELPHIA ACADEMY OF SURGERY

Stated Meeting Held December 3, 1923

The President, DR. JOHN H. JOPSON, in the Chair

CONDYLAR FRACTURE OF THE HUMERUS

DR. E. G. ALEXANDER presented a boy, four years of age, who was admitted to St. Christopher's Hospital, September 17, 1923, with an injury of the lower end of the left humerus sustained as the result of a

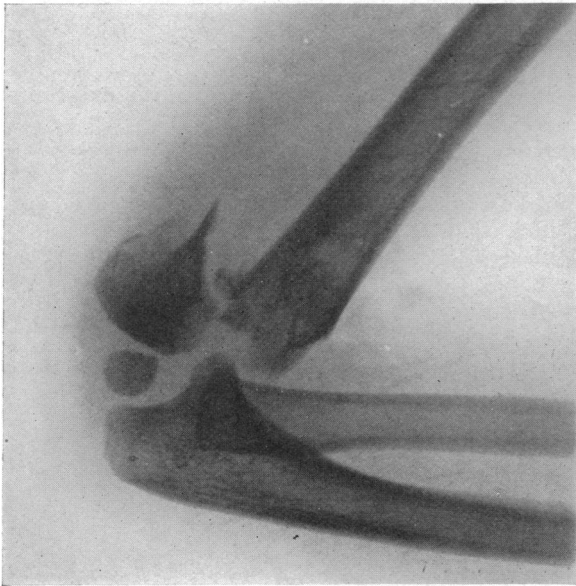


FIG. 1.—Supracondylar fracture of the humerus, before reduction.
Case I.

fall downstairs. Examination showed a supracondylar fracture with forward and inward displacement of the upper fragment (see Fig. 1). Three attempts at bloodless reduction under ether having failed to improve the position, on September 26th, the fracture area was opened by a three-inch long incision on the inferior anterior surface of the arm over the lower end of the upper fragment and open reduction

attempted; a great deal of difficulty was encountered on account of the cartilaginous nature of the lower fragment. No internal fixation apparatus or suture was used. The upper fragment was freed of the soft tissue and pushed backward and inward in apposition to the lower fragment. The wound was then closed and the forearm placed in acute flexion. The X-ray (Fig. 2) showed almost perfect reduction. At the end of three weeks the patient was discharged and referred to the dispensary for further treatment. Wound completely healed.

The reporter thought this fracture to be of interest on account of the unusual deformity and the great difficulty of reduction. The patient would probably have gotten a fair functional result if the fracture had been left alone. It is hard, at this age, if the fracture had not been

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reduced, to really say how much deformity would have resulted. The "gun-stock" deformity and the loss of the carrying angle are the two possibilities. He was surprised at operation to find no callus, although the fracture was twelve days old.

The case is not a supracondylar fracture. It could be classed as a condylar fracture or as an epiphyseal separation. The

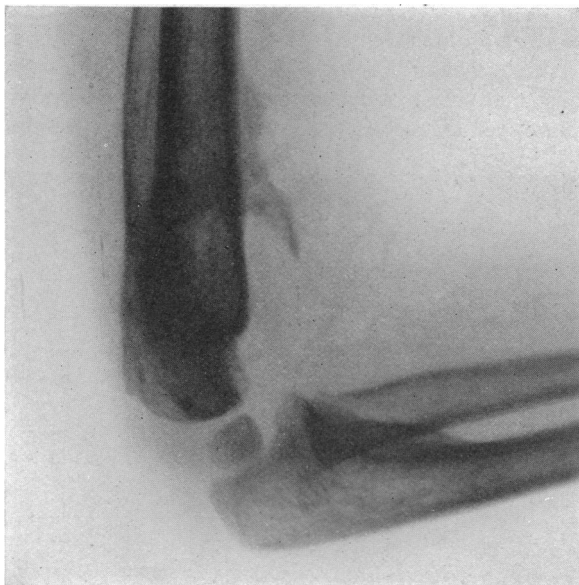


FIG. 2.—Case I, after reduction.

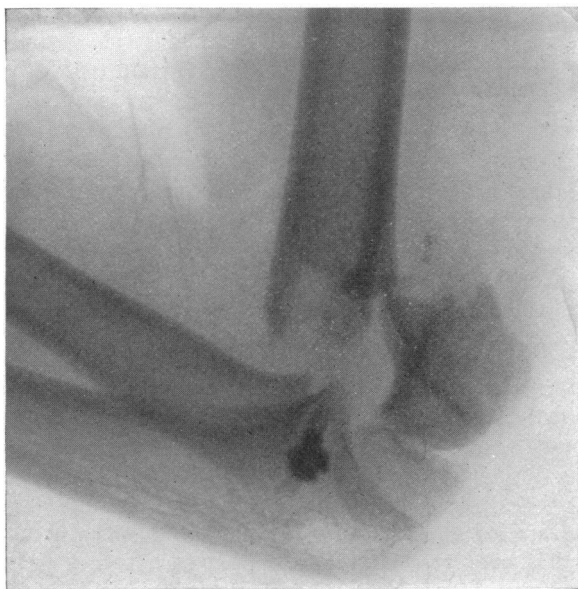


FIG. 3.—Supracondylar fracture of the humerus, before reduction.
Case II.

condyles were fractured, but the portion between the condyles was smooth, as if it was an epiphyseal separation. It is too soon to record the end result.

DOCTOR ALEXANDER presented a second case of fracture at the lower end of the humerus, in the person of a boy, age eight years, who was admitted to the Episcopal Hospital, October 13, 1923, with the diagnosis

of supracondylar fracture of the right humerus. On the day before admission he fell off a fence. He thinks he fell directly on the right arm, with the arm in the outstretched position. There was present about the

elbow a large amount of swelling with discoloration of the soft parts; there is an abrasion of the skin immediately above the internal condyle of the humerus; localized pain, mobility, ecchymosis, swelling, deformity, loss of function and crepitus over the supracondylar region of the right humerus. X-ray (Fig. 3) showed a fracture through the condyles of



FIG. 4.—Case II, after reduction.

the right humerus with displacement backward for the entire diameter of the shaft of the lower fragment. It is also displaced outward for one-third of the diameter of the shaft in the antero-posterior view. Attempts at reduction without anæsthesia were unsuccessful.

October 20th, under ether anæsthesia, reduction was accomplished by forcible hyper-extension of the forearm and then bringing the arm

up in acute flexion. "X-ray (Fig. 4) shows fracture almost completely reduced." Patient discharged from the hospital and referred to the surgical dispensary for further treatment.

This case was shown along with the preceding case to emphasize the fact that in eight days after a fracture of the lower end of the humerus in a child, sufficient callus was not present to interfere with reduction.

PARTIAL RUPTURE OF THE INTESTINE

DOCTOR ALEXANDER presented a boy, aged eleven years, who was admitted to the Episcopal Hospital, October 6, 1923, with the history that about three hours before admission he was roller skating on the street and fell, striking his abdomen on the pavement. He has since vomited seven or eight times, but has not vomited blood. He has pain in the lower left quadrant of the abdomen, is unable to void urine, complains of thirst and is very restless. The child was a rather pale, thin, young male, of about eleven years of age, complaining of pain in the lower part of the abdomen, but apparently not of a serious nature. No symptoms externally. The abdomen was slightly scaphoid in type, no abrasions or ecchymosis, no masses palpable, no dulness in the flanks. On palpation over the lower left quadrant of the abdomen there is superficial tenderness and rigidity present. There was no peristalsis in this area.

THROMBO-ANGEITIS OBLITERANS

Under ether anaesthesia the abdomen was opened through a left rectus incision. On opening the peritoneum a milky fluid was encountered; this was cultured. The intestines were then examined, and in the lower ileum a partial rupture of the wall of the gut was found, which extended through the peritoneal and muscular coats down to the mucous membrane. The rent in the intestinal coats was closed, a rubber tube was placed in the pelvis and the wound closed. The rubber tube was removed the day following operation as the culture showed no growth. The patient made an uneventful recovery and was discharged from the hospital on October 23, 1923.

This case emphasizes the fact that serious intra-abdominal injury may take place without any visible external signs, as abrasions, ecchymosis, etc. It also emphasizes the fact that in all abdominal injuries localized pain and rigidity and the absence of peristalsis warrants one in opening the abdomen.

GUNSHOT WOUND OF THE ABDOMEN

DOCTOR ALEXANDER presented a lad aged sixteen years, who was admitted October 5, 1923, with the history that shortly before, while he was unloading a 25-calibre automatic pistol, it was accidentally discharged, the bullet entering his anterior abdominal wall and coming out of his back. When admitted he was markedly shocked. Temperature 98. Pulse 144. Respirations 30. Pulse volume low. Immediately below and slightly to the right of the umbilicus in the abdominal wall was a small puncture wound, black in color, with inverted edges, from which a small amount of blood was oozing. In the back, on the left side, slightly below the level of the umbilicus, was the wound of exit of the bullet; a considerable ooze also coming from this wound. The abdominal muscles were rigid, there was dulness in each flank and no peristalsis to be heard. Without delay the abdomen was opened by a right rectus incision. On opening the peritoneum a large amount of fluid blood gushed forth. The intestines were carefully examined for perforations and none found. Clots were found in the omentum and a large hæmatoma could be seen behind the posterior peritoneum in the pancreatic region. The bullet hole could easily be seen in the anterior parietal peritoneum, but no opening could be found in the posterior peritoneum. The abdominal cavity was sponged free of blood, possibly a litre of salt solution poured in, and the wound then closed without drainage. The patient was immediately transfused by the citrate method and anti-tetanic serum given. Recovery was uneventful and the patient was discharged from the hospital on November 24, 1923, in good condition.

THROMBO-ANGEITIS OBLITERANS

DOCTOR ALEXANDER presented a man, aged fifty-three years, who was admitted to the Episcopal Hospital, April 2, 1923, on account of gangrene of toes due to thrombo-angeitis obliterans. Seven years ago gangrene developed in the left foot and his left leg was amputated at the Samaritan Hospital. His present illness began as a soreness in the toes twenty-one weeks before admission to the hospital. Had been at home in bed for nineteen weeks under the care of his family physician. Has

a feeling of numbness in the toes and suffers a great deal of pain, especially if the foot is exposed to heat.

When admitted he appeared a fairly well developed adult white male, whose left leg had been amputated about four inches below the knee. The great toe, index and middle toes of the right foot are now blue in color and cold; an ulcer is present on the under inner aspect of the great toe; the other toes are slightly discolored. Pulsation in the posterior tibial and dorsalis pedis faintly felt. Blood sugar and urea normal, urine negative.

The patient was kept in bed with the foot elevated, heat was applied and he was given potassium iodide internally. He suffered a great deal of pain and for this intravenous injections of sodium citrate were given without any beneficial result. Morphine was frequently given to relieve the pain.

April 19, 1923, peri-arterial sympathectomy was performed. Following the operation the pain was greatly relieved for a few days. However, the gangrene in the toes became steadily worse and on May 10, 1923, the first and second toes were amputated. Following the operation the patient continued to have pain in the toes and foot, and occasionally complained of pain in the sympathectomy wound. The gangrene continued to progress until on June 11, 1923, a Chopart's amputation was performed. On account of the devitalized and infected nature of the foot, the wound was left open. Following the operation the remaining part of the foot and lower third of the leg became very much swollen, red and tender. This area was opened and drained of the pus which was found above the ankle. The patient rapidly began to improve, all his pain entirely disappeared, and the wounds began to clear up. The wounds finally entirely healed and the patient was discharged from the hospital in good condition.

The arterial sympathectomy had had no effect on the gangrene of the toes, which, when the operation was performed, was becoming steadily worse. The pain was greatly relieved immediately following the operation; it recurred, however, in a few days, but never to be quite as severe as it was previous to the sympathectomy. The pain following the operation seemed to be more intermittent in character, the patient often going several days without complaining sufficiently to require a narcotic. Sodium citrate intravenously for the relief of pain in arterial disease seems, in his experience, to be a most unreliable and overrated measure.

DR. ASTLEY P. C. ASHHURST, who had seen the first case with Doctor Alexander, said that when he found it had been nine days since the child was hurt, he was dubious as to whether or not he could reduce the fracture after so long an interval. Although he pulled as hard as he could, did not secure reduction. However, he thought that if the elbow was left alone, the child probably would get as good a result as if an open reduction were done, and for the following reasons: First, the child already had complete flexion of the elbow; second, the lower fragment, though posterior, was more

THROMBO-ANGELITIS OBLITERANS

external than internal, so that the development of cubitus varus was not to be feared; third, the fact of the child's extreme youth was in favor of the spontaneous architectural rearrangement of the bone fragments, so that ultimately a reasonably good result would be assured. On the other hand, open reduction at a stage after the injury when so much new subperiosteal bone has already formed, has usually resulted in a stiff elbow in the cases he had seen treated by other surgeons by operation. He had never himself had occasion to operate on so young a child. He thought that Doctor Alexander's second patient showed how useless it is to put the elbow into hyperflexion until reduction is secured. To secure reduction one has only to reverse the process by which the fracture occurred, namely, hyperextension, longitudinal traction, and eventual complete flexion, which he called hyperflexion. When the elbow is flexed it is very important not to flex it in any other than the sagittal plane. If it is flexed up and toward the chest a cubitus valgus will be present when the patient gets well. If it is flexed too much away from the chest, one will get cubitus varus. When flexed one can do what one will with the forearm because the lower fragment is locked on the shaft of the humerus, and the whole extremity—the forearm, elbow, and upper arm—move as one piece. One need not fear rotating the fully flexed elbow in toward the chest, because if the elbow is kept in hyperflexion it is immaterial what is done to the shoulder joint, where alone rotation will occur.

To maintain the elbow in hyperflexion, no dressing is so simple as a roller bandage. First powder the crease of the flexed elbow, and place a small sweat pad in it. Begin with a number of turns of the roller bandage around the wrist, and include the hand in the bandage. Then return to the wrist and again take a number of turns of the roller around the wrist, before carrying the bandage across to the arm below the axilla. Neglect of the precaution to put enough turns around the wrist to make a firm pad of bandage here, may cause the bandage to produce a slough over the subcutaneous border of the ulna, when the roller is drawn taut from this point across to the arm just below the axilla. Then carry the roller back and forth from arm to forearm, bandaging in the elbow much as one would an amputation stump. Finally, carry the same continuous bandage around the child's neck, suspending the wrist from the neck. In all cases the hand, at least its thumb, should lie on the same side of the neck as the injured elbow. If the hand lies on the other side of the neck, the elbow has not been flexed acutely enough to prevent displacement of the lower fragment.

DR. JOHN H. JOPSON spoke of the possibility of Volkman's contracture following treatment of fracture of the elbow by acute flexion. In the early stages, he would hesitate to use forced flexion to the degree recommended by Doctor Ashhurst. He was satisfied to adopt a position of moderate flexion, after reduction under anæsthesia, and later raise the hand to the higher level. He had been well satisfied with the results thus obtained.

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DR. HENRY P. BROWN said that he expected to show at the next meeting a Russian Jew, thirty-six years of age, who showed evidence of endarteritis obliterans in both feet. Doctor LeConte performed a sympathectomy on the right side with immediate relief of the pain. He did so well, Doctor LeConte wanted him to have the operation done on the left side, but he would not submit. Seven or eight months later the left side became so much worse that he was very anxious to have the operation done. At the time of operation on the left side the contraction of the femoral artery which always follows this operation was just sufficient to shut off the blood supply to the foot and the man had subsequent gangrene and the foot was removed at the end of two or three weeks. Pain was relieved at time of operation. The right side did very nicely. No pain at all. At present he walks around on crutches.

DR. A. E. BILLINGS said that at the Jefferson College Hospital they had had a number of cases of sympathectomy. All had been relieved from pain with the exception of two, which came to amputation for gangrene. One patient with beginning gangrene of the great toe was finally relieved from pain and it is now one and one-half years since the operation. He is still entirely comfortable and goes to work. Another case operated on one and one-half to two years ago is well. Two patients have come to amputation since and the other day he amputated the leg of a patient whom Doctor LeConte had operated on nine months ago with relief only for a short time.

DR. GEORGE P. MULLER had performed sympathectomy eight times for Buerger's Disease, without very satisfactory results from the standpoint of recovery from cyanosis or threatened gangrene. The exception was a patient past middle age who had beginning gangrene of the little toe; after sympathectomy he made a wonderful anatomical recovery and has remained well since, about two years. In three of the cases there was distinct relief from pain and in the other four there was no improvement. They went on to amputation. Leriche's theory is that it relieves vasomotor constriction and improves the blood supply. All of these patients were neurotic, and were mostly Russian Jews. The trouble with patients with Buerger's disease is that in addition to the neurosis they also have thrombosis, and the vessels are almost obliterated. Therefore you cannot get vasodilatation of the vessel. You can relieve the pain by cutting the afferent. Buerger says the thrombosis does not extend to the capillaries but involves the larger vessels, and the hope of sympathectomy is that you can improve the capillary circulation. Kroh shows that while the capillaries may not have muscle walls, yet they have cells which expand under stimulus. The speaker's results had been disappointing in senile and diabetic gangrene.

DUPLEX KIDNEY WITH PYONEPHROSIS

DR. LEON HERMAN presented a post-mortem specimen showing pyonephrosis affecting the lower half of a duplex kidney. The individual, a woman of seventy years of age, from whom this kidney was removed,

POST-OPERATIVE PULMONARY COMPLICATIONS

came to the Methodist Hospital in 1921, with symptoms suggestive of acute left-sided pyelitis. The cystoscopic examination revealed duplicity of the left ureter with infection of the lower pelvic segment. The condition seemed to be a chronic one with an acute exacerbation of the infection. A pyelographic and differential functional study showed a relatively normal upper segment with an infected and functionless lower segment. The patient had diabetes, and after due deliberation it was deemed inadvisable to attempt operation, although the findings suggested the possibility of doing a hemi-resection of the kidney. They were able to keep the infection under control by pelvic lavage, but for a long time the patient absented herself from the clinic. Several weeks ago she was admitted to the medical service of Dr. George Norris in the Pennsylvania Hospital with a very severe attack of renal infection, together with other complications which have now proved fatal. Drainage of the pyonephrosis by means of the ureteral catheter and pelvic lavage were of no avail for reasons that became evident at the post-mortem table. The pyonephrotic sac had ruptured, or at least the infection had spread beyond the limits of the sac, and there was purulent infiltration of the psoas muscle, and a massive left-sided empyema.

There was incomplete duplicity of the right ureter, but neither segment of this kidney had become infected.

TEMPORO-MANDIBULAR ARTHROPLASTY

DR. GEORGE M. DORRANCE read a paper with the above title, for which see page 485.

POST-OPERATIVE PULMONARY COMPLICATIONS

The annual oration in surgery was delivered by Dr. WALTER ESTELL LEE, with the above title. For this address, see page 506. Doctor Lee also reported the following case:

The patient was a lad, sixteen years of age, who was admitted to the Germantown Hospital, March 12, 1923, with acute appendicitis and operated upon the same day by Doctors Murray and Bloomhart. The swollen, partially necrotic appendix was removed. He left the table in very good condition on the third day, post-operative, having been fairly comfortable, up to that time he began to complain of pain in the right anterior chest.

Examination at this time of the anterior chest showed a peculiar ringing but dull note upon percussion from the level of about the second rib downward, extending to the side to axillary line, but did not seem so much in evidence here. Posteriorly the patient was not examined. By auscultation over the designated area in the anterior chest, the whispered voice was diminished and in the upper part numerous moist, coarse râles could be heard. Tactile fremitus seemed but little diminished. At this time the apex beat of the heart could neither be seen nor felt to the left of the sternum. There was a visible pulsation synchronous with the heart beat, placed about one inch to the right of the right border of the sternum and in the fourth interspace. The heart sounds

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were transmitted over the entire right chest, but were heard the strongest over the point where the pulsation was visible. At this time tentative diagnosis was made of pneumothorax with a possibility of a tuberculous origin. Also a condition of dextrocardia was thought probable.

March 16, 1923.—The physical signs were very similar to those found at the last examination, except that the ringing quality of the percussion note was less marked and fewer râles seemed to be present. The position of the heart seemed somewhat more to the left so that pulsation could be seen and felt in the fifth interspace to the left of the left border of the sternum but considerably within the normal location of the apex beat. A heavy, muco-purulent sputum is constantly raised.

March 17, 1923.—The heart has returned to the left somewhat, taking a position behind the sternum, the sounds are quite as forceful as ever. Friction rub heard distinctly over both sides anteriorly.

Notes by Doctor Geisler: Lungs.—Left lung shows a compensatory hyperactivity; right lung diminished expansion in the upper lobe, a few sonorous râles are heard and the respiratory note is exaggerated. Middle or lower lobes show dullness varying in intensity on change of posture but never quite clearing, with distant breathing in some parts and absent breath sounds in others. Vocal resonance well transmitted and occasionally egophonic in small areas. Probably due to a loculated effusion or a thick, fibrinous effusion.

March 18, 1923.—General condition not so favorable as has been. The physical signs are about the same. The heart area is well defined about one inch to the right of the sternum, where the pulsation is visible in the fourth interspace. Râles diminishing. Ringing quality of percussion note somewhat diminished anteriorly. Posteriorly a decided ringing quality is heard at the level of the spine of the scapula. Breath sounds here are exaggerated and the spoken voice is so loud at this level that it is almost painful to one's ears. Spoken voice slightly increased at the base, where a suggestion of egophony is present. Râles are heard as well posteriorly.

Drainage is free from the incision. The pus is thin and watery, with a very foul fecal odor. There is a definite suggestion of a mass present in the right pelvic area and hypogastrium. This is moderately tender. Patient has no pain at the site of the incision but complains of epigastric distress.

March 19, 1923.—The ringing note has almost disappeared in the anterior chest. Heart maintains the same position, the râles are still present, and the expectoration continues. General condition is somewhat better, drainage profuse.

March 21, 1923.—Left chest still hyperresonant everywhere. No cardiac dullness. Apex beat visible in fourth interspace, one and one-half inches right of median line. Heart sounds heard throughout right chest. Hyperresonance in right chest disappearing and the greatest resonance is over the right upper lobe. Lying on the left side heart dullness moves to one inch to left of median line and apex beat felt in fifth interspace at right of sternum. Upper lobe posteriorly the broncho-

GANGRENE OF APPENDIX RESULTING IN COLIC

scopy has disappeared, but the râles are present. Middle lobe posteriorly is silent. Lower lobe posteriorly is silent. Tactile fremitus present posteriorly, most marked over upper and middle lobes.

March 23, 1923.—Right border of heart one and one-quarter inches right of median line. Beat not felt on the right so distinctly as before. Friction rub heard throughout entire right chest. Posteriorly the middle lobe is silent, hyperresonance is absent now anteriorly.

March 25, 1923.—Heart has moved over slightly toward the left. Sounds not so distinct in the right chest but still heard there. Friction sound has entirely disappeared. Incision healing, drainage very slight, and the foul odor has disappeared. There is a mass present in the right abdomen about the size of the back of a hand.

March 27, 1923.—Very difficult to feel heart and pulse on the right but probably felt one inch to right of mid-sternum. Definitely felt in fifth interspace one and three-quarters inches to left of mid-sternum. He has a definite mass in mid-abdomen below the umbilicus to the inner side of the incision, probably a secondary abscess. This would account for his febrile condition.

March 29, 1923.—Abdominal mass is still palpable, not tender, temperature is normal. Is probably going to take care of this infection himself. The hyperresonance over the left chest is disappearing. Heart dulness is at the right border of the sternum and the left border is one-half inch to right of nipple. There is a slight cardiac pulsation visible in the third and fourth interspace to the right of the sternum, but is not palpable.

April 18, 1923.—Patient's abdominal condition is entirely cured. He developed an acute otitis media, left ear April 2, 1923, the right ear April 3, 1923, for which he has been treated by the ear department with incision of both drums and the ears douched. His temperature has gradually become normal and has been so for nine days and the ears are no longer draining. Patient discharged recovered.

Stated Meeting Held January 7, 1924

The President, DR. JOHN H. JOYSON, in the Chair

HERNIA THROUGH THE FORAMEN OF WINSLOW

DR. MAURICE PICTON (by invitation) read a paper with the above title and presented the patient whose history had prompted the study.

GANGRENE OF APPENDIX RESULTING IN COLIC AND DUODENAL FISTULÆ

DR. JOHN B. DEEVER presented a young man who was admitted to the Lankenau Hospital, October 19, 1916, with the history that three days before his admission, he was seized with general abdominal pain which in a few hours localized in the lower right abdomen. He neither vomited after the onset of pain nor after the pain localized. Twenty-four hours before he came into the hospital he took citrate of magnesia, which was followed by