CASE 2. Boston Lying-In Hospital. House No. 24152. Seen in pregnancy clinic October 17, 1917; 37 years 1 para. American. Family and past history negative. Physical examination negative. Pelvic measurements, 30-25-18½. January 11, 1918, normal primiparous labor, nine hours. Baby weighed five pounds, eleven ounces; cord twenty-two inches long. Placenta, one pound, one ounce. Placenta came away incomplete, and patient had slight post-partem hemorrhage, so cavity of uterus explored and small piece of placenta removed. Ergot and pituitin given S. C. Pulse 160; not enough hemorrhage to account for condition of shock. Given 500 c.c. of salt under each breast. Pulse 140. Patient had routine treatment for shock and condition gradually improved. Had occasional slight hemorrhage, however.

January 12—P.M., temperature, 99.5; pulse, 118; condition improved. January 13—P.M., temperature, 100.4; pulse, 130; about the same. January 14—P.M., temperature 100.4; pulse, 104; pads foul; January 15—P.M., temperature, 102.8; pulse, 140; pads foul. Patient has been unable to void satisfactorily, so catheterized and 69 ounces obtained. Pads more foul; intra-uterine douche advised. This was attempted and diagnosis of inversion of uterus made. January 16—Under ether, an attempt was made to replace body of uterus. This was unsuccessful; patient went into extreme shock. Morphia, sub-pectoral salt and rectal tap again restored her to good condition. January 17—Under ether, another attempt was made to replace body of uterus. This was unsuccessful, so a laparotomy was decided upon. Median incision from symphysis pubis almost to umbilicus. Uterus found completely inverted, tubes being drawn in with fundus. An attempt was made to stretch the ring above and push the fundus up from below, but efforts failed. The posterior vaginal wall was finally split; the uterus then was pushed up, and a hysterectomy performed, a small portion of the cervix being left *in situ*. A drain was passed from pelvis into vagina; a second drain passed from pelvis out through abdominal wall, which was closed to the wick. Patient put to bed with pulse of 160; fair quality.

Patient recovered from shock of operation, but died sixteen days later of sepsis and exhaustion.

CONCLUSIONS.

1. Acute inversion of the uterus, post-partem can occur spontaneously.
2. Insertion of the placenta in or near the fundus of the uterus seems the most probable etiological factor.
3. Realizing the possibility of encountering the fundus weakened by being the placental site, great care should be exercised in expressing the placenta by pressure from above.

4. Shock, whether or not accompanied by post-partem bleeding, should demand immediate vaginal examination, unless the typical spherical fundus can be plainly felt through the abdominal wall.

5. Where the diagnosis is made too late for manual reposition from below, immediate laparotomy and reposition by traction with direct transfusion, offers the best chance for a successful outcome.

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A CASE OF MYOSITIS OSSIFICANS TRAUMATICA DEVELOPING FROM TORN CORACO-CLAVICULAR LIGAMENT WITHOUT OTHER BONY FRACTURE.

BY HERMAN W. MARSHALL, M.D., BOSTON.

THE thirty-two-year-old man, whose case is reported, was very well developed muscularly and in excellent health when he was injured. He was at work, lying on his back on the floor under a Ford touring car, when a wooden block started to split that had been placed as a support under the machine while a wheel was removed.

He attempted to roll quickly from beneath, but the running board pinned him down with one shoulder against the floor, and with a brace of the running board pressing down on the other shoulder, the right one, that was injured most.

He was extricated instantaneously, for he managed to make noise enough when the car squeezed out his last breath, to attract attention. He was able to get up immediately and went to a hospital on the following day, where he remained with both shoulders supported in bandages. The right one was held in a sling for nine weeks, and afterwards he managed to return to special light work within a few months of the time of his accident.

FIG. 1.

The writer saw him first, seven months after his injury. Prominent clinical features then were loud crackings and snappings when the scapula was rotated in movements of the arm. Pain was referred to the forearm, just below the elbow, and to anterior and posterior margins of the axilla. He continued to do whatever work he felt able to, and at a second examination, one year after his injury, the unusual scraping continued unabated. X-rays previously had shown no bony fractures, and additional ones taken one year after the accident, exhibited only slight changes around the acromio-clavicular joint.

No suspicion of serious rupture of the coracoclavicular ligament was entertained at this time, although it was realized that there had been some unusual injury. Six months later, and eighteen months after injury, he presented nearly the same appearance, and he had continued to work during the interval. Practically all shoulder motions were possible now, with difficulty and hesitation. Extremes of scapula rotation were painful. Adhesive strappings relieved him considerably, and with this assistance he continued to support his family and run an automobile a part of the time.

Diagnosis of myositis ossificans traumatica was made, first from x-ray findings at one of the Boston hospitals about twenty-one months from time of original injury. An immediate

operation was advised, but apparently the severity of damage to the coraco-ligament was overlooked. He could not afford to lay off from work, and it was agreed that he could postpone surgical treatment safely as long as he could continue to work and to improve.

Another x-ray was taken, which is reproduced in Figure 1. It shows two bony masses growing from the under surface of the clavicle at the site of the attachment of the coracoclavicular ligament. Interpretation of the details of his injury, in view of these x-ray findings, makes it seem plain that the injuring force was transmitted through the humeral head to the glenoid fossa of the scapula without much direct pressure on the acromial process. Strain was thrown mainly on the coraco-clavicular ligament, and its trapezoid and conoid divisions both were broken instead of the outer end of the clavicle, as would have happened, presumably, if the acromion had been pressed directly and strongly. The two acromio-clavicular joints appear alike on the two sides, and both are somewhat relaxed.

An adhesive strap girdle was applied about the shoulder in a new manner when the extent of the injury to the coraco-clavicular ligament was fully realized, and loud crepitus was stopped instantaneously. Then a leather girdle was prepared that is shown in Figure 3, which accomplishes the same result.

FIG. 2.

FIG. 3.

At the time of application of this support, twenty-two months after injury, he had considerable weakness of the arm. Light swinging of the arm back and forth, without much muscular force, no longer caused loud crepitus, but with tense muscles it persisted. He could lift 70 pounds with his right arm hanging extended, in contrast to 180 pounds possible with the left arm. Tenderness to direct pressure existed only over the front of the shoulder-joint at its inner side, and was felt in an inconstant manner in certain positions of the

arm. This was interpreted as tenderness of the deeply situated coracoid process when its tip was pressed on occasionally in certain postures. The patient said there was a sore spot deep in the shoulder and indicated, himself, the location of the coraco-clavicular ligament through the trapezius muscle behind the clavicle on top of the shoulder. Neither the clavicle itself nor the acromio-clavicular region were tender. He could crawl again under cars to repair them, but favored the right arm a great deal.

This paper was prepared at this stage of progress, and questions might be asked whether he was receiving proper care, whether he should be operated on, and what his future prospects were likely to be.

Figure 2 is introduced to make clear the anatomical features of the case. The scapula is slung up to the clavicle by the strong coracoclavicular ligament and it swings back and forth in movements of the arm from this fixed point. If this ligament is ruptured, then the shoulder blade can plough among the tissues in abnormal fashion, catching irregularly on underlying muscles and giving rise to audible coarse crepitus and snappings as obstructions are overcome.

The girdle of adhesive straps restricted scapular motions to some extent, and made the collar bone and shoulder blade move again as a normal unit sufficiently well to abolish the abnormal scraping. He noticed immediately there was very little shoulder pain on twisting the arm, but that it did not prevent the pain and weakness in lifting. Painful pulling on the coraco-clavicular ligament, through insertions of coraco-brachialis and biceps muscles into the coracoid process and evidenced by pain in the elbow in lifting, can be relieved only by additional strappings along the course of these muscles. The front straps of the leather girdle have been made of strong elastic webbing to permit freedom of respiratory movements, while thin steel straps reinforce the leather and prevent it from stretching in undesirable ways. The apparatus encases the shoulder blade and holds it tightly to the chest wall and clavicle, and relieves the damaged coraco-clavicular ligament very considerably.

Operative interference might permit repair of the ligament, and allow removal of the bony periosteal overgrowths.

If the abnormal bony masses which are intimately associated with ligamentous fibers were

excised, there would be considerable sacrifice of ligamentous fibers, and there might be difficulties in approximations of torn ligamentous ends afterwards, so there are fair chances that ligaments might be weakened, rather than strengthened, by surgical measures directed mainly toward removal of bony defects.

It is known that proliferating detached periosteum will continue to proliferate for a while in these cases of myositis ossificans and then shrink usually into a quiescent state. It will not become a malignant tumor. Mention should be made of a new conception of myositis ossificans traumatica, that has been advanced recently by Dr. Charles F. Painter of Boston.

He believes there is a peculiarity, or diathesis, in persons who exhibit these periosteal overgrowths since all persons who suffer periosteal damage do not develop myositis ossificans. The process depends on two factors, a diathesis plus a mechanical factor. It would seem that slight traumata, in some cases, are sufficient to start the process, while in others more unusual conditions are required to make loose bits of periosteum grow free in the soft tissues. He would explain instances of myositis ossificans *progressiva* as due to a very marked tendency of the same nature toward periosteal proliferation, which results in production of the condition without traumata except ordinary continued mechanical strains accompanying usual body motions.

It seems to the writer that Dr. Painter's contentions are correct, and if so, then the patient under consideration is not liable to much more bony hypertrophy after his severe injury. X-ray appearances show a tendency toward well-defined, limiting outlines of bony surfaces which harmonize with this idea.

These bony abnormalities are doing no apparent harm, and therefore should be left undisturbed as long as he has as good function as at present, although from a scientific medical standpoint, it would be interesting to examine his shoulder surgically.

Distribution of pain suggests that the musculo-cutaneous nerve is involved in pains referred by the patient to the forearm just below the elbow, while pains felt over the margins of the axilla anteriorly and posteriorly perhaps can be explained as of circumflex nerve origin.

Muscle atrophy has been rather slight, and not more than can be accounted for, easily, by continued disuse. He is still very muscular.

If an opinion were demanded regarding his future prospects, it seems probable now that there will be some slight disability at least for a year or so longer. It would not be surprising to have him slowly recover, very gradually, and eventually become unconscious of remaining weakness, after he learns to favor himself perfectly. Or it can happen easily, that he will keep the shoulder weak from continued slight overuse, so that the coraco-clavicular ligament becomes permanently weakened to very noticeable degree. If this happens, it can be operated on whenever disability justifies additional loss of time and surgical risks. While operation has not been advised in this unusual late case, it is probable that surgical repair of more recently torn ligaments without periosteal overgrowth represents the best treatment usually in the earlier stages, if diagnoses are made.

Clinical Department.

A FURTHER CASE OF TUBERCULAR MESENTERIC GLANDS.

By JOSEPH M. LYNCH, M.D., BOSTON.

APROPOS of the two cases of tuberculosis of mesenteric lymph nodes recently reported by Dr. H. M. Clute (BOSTON MEDICAL AND SURGICAL JOURNAL, September 30, 1920), the writer wishes to report a similar case observed while the patient was on the service of Dr. E. N. Libby at the Boston City Hospital.

It illustrates well the fact that a condition will obscure a diagnosis, or rather complicate a correct diagnosis, which later may be very simply explained.

The patient entered the hospital on January 4, 1920, spoke but very little English, and the history was obtained from an interpreter as follows:

G. C., male, aged 27. Born in Poland. Occupation, laborer. Chief Complaint—Abdominal pain and vomiting. Family History—Father and mother living and well. One brother and six sisters living and well. No known exposure to tuberculosis. Past History—Always well, so far as known, except for influenza pneumonia one year ago. Recovery good. Habits—Good. Denies luetic or gonorrheal infection. Present Illness—For the past eight months has had epigastric pain, fairly well localized in the epigastrium. Pain sharp at times, and is periodic. Pain comes on usually at night; does not radiate, and at times is sufficient to keep patient awake. Attacks of pain are usually accompanied by spells of nausea and vomiting at times, the patient being unable to retain even water. Vomitus consists of food

caten, has never been yellow, blood-tinged, or black. Never jaundiced. Has not noticed his stools.

Physical Examination—Fairly well developed and poorly nourished young man, with evident loss in weight. Not prostrated. Head—No scars or exostoses. Eyes—Pupils equal, regular, react normally. Ocular motions normal. Sclerae clear. Ears and Nose—Normal. Mouth—Tongue protrudes straight, clean, moist. Teeth—Good condition, well cared for. Throat—Normal. Neck—No rigidity or retraction. Nodes—None. Chest—Symmetrical; expansion equal. Heart—Within normal limits in size. Action regular, sounds good, no murmurs. Lungs—No abnormal dullness. Breath sounds normal. No râles. Abdomen—Level. No abnormal bulging. In the left upper quadrant to the left and above the umbilicus is a tumor the size of a hen's egg, nodular, firm, fixed, and not movable with respiration. Slight tenderness on pressure of mass. A smaller mass, size of large almond, freely movable, not attached to structures and not tender, is felt just to the right of the larger mass. Liver and spleen not felt. Extremities—Normal. The urine was repeatedly negative, at no time sugar being present. Stools showed presence of undigested fat. Temperature and pulse remained normal. White Blood Count—12,000. Differential—Polymorphonuclears, 53%; small mononuclears, 29%; large mononuclears, 18%. X-ray of Lungs—Both apices showed marked increase in density and mottling. Lungs otherwise clear. Pulmonary tuberculosis.

Further Observations—Patient's condition remained unchanged. On January 18 a bismuth series showed stomach high and transverse. Duodenum posterior. Tender in left flank, below stomach. Small bowel distention and delay (adhesion). Appendix beaded. Chronic appendix.

On January 20, 1920, patient was transferred to surgical service and operated upon on January 21. A high median incision was made, and the following was found: Large, firm mass of mesenteric glands in the region of the transverse colon at the attachment of the mesentery. Mesentery throughout studded with enlarged glands. No attempt at removal made. Wound sutured. Patient was later transferred back to the medical service, and subsequently discharged from the hospital. A later note is to the effect that the patient is at present at Rutland.

Apparently from the location of the tumor and its fixation, it seemed probable to be a pancreatic tumor of some kind, but the location of the mass, in the mesentery, close to its attachment, and preventing the moving of the mass with respiration, readily explained why it might well be called a tumor of the pancreas, which later was disproved.