

whether the bullet remains in the centre of the cerebral tissues, or whether it lies within reach. It is, therefore, impossible to determine the position of the bullet without the use of the probe, and even with the probe the danger is that greater injury should be done to the brain substance by the examining instrument than good would be accomplished by its discovery. For this reason it would seem to the writer to be advisable to discountenance all probing of the cerebral tissue for bullets, from the fact that it is known that no great harm comes from the simple presence of the bullet alone. The same is true in regard to the presence of hair, or pieces of the cap or hat. Where the wound is a large one and the brain tissue lacerated, careful irrigation with boiled water would seem to be the best way of managing the lesion, and that no attempt to extract foreign bodies imbedded at any depth in the tissue of the brain, is surgical or desirable.

The subject can be summed as follows: In penetrating pistol-shot wounds of the skull, death is to be anticipated in a large majority of cases. Recovery, however, does occur in a certain number of instances. The treatment should be the treatment of a penetrating fracture of the skull (that is, a fracture from any sharp instrument, a nail or spike). The scalp should be dissected away from the injury and the bone thoroughly examined. Loose fragments of bone should be removed. A trephine should be used if it is considered necessary to thoroughly cleanse the wound or to give egress to any collection of fluid or blood that may be below the dura. If the dura is penetrated and if there is any bulging of the dura, the dural opening should be enlarged. The brain substance should be thoroughly irrigated and washed, but not probed or treated with violence. It is unnecessary to state that the strictest asepsis is desirable.

CELIOLOGY FOR RUPTURE OF THE UTERUS DURING LABOR.¹

BY H. O. COE, M.D., OF NEW YORK.

ALTHOUGH the literature of this subject is quite exhaustive, most authors deal with the etiology and pathology of rupture of the uterus rather than with the treatment; and much of the teaching with regard to the latter antedates the era of modern abdominal surgery. The writer feels some hesitation in writing upon this theme, as it has been already ably presented to the American Medical Association by Dr. William H. Wathen and Dr. C. A. L. Reed, in papers read before the Obstetrical Section. The writer's purpose in reintroducing the subject before the Surgical Section is to have it discussed from the broad stand-point of general surgery. This is entirely proper, since rupture of the uterus is to be considered in the same light as rupture or other lesions of any other of the abdominal viscera. It is pre-eminently a surgical emergency, and should not be studied from its gynecological or obstetrical side alone.

When Lawson Tait feels justified in proposing Porro's operation as the proper treatment for placenta prævia, we may well ask, Is simple expectant treatment applicable to the far more formidable obstetrical complication, rupture of the uterus? Note

that the paper deals with rupture of the *parturient* uterus, and not with injuries of the organ before labor. This is an important distinction to be borne in mind in the discussion. The writer bases his paper entirely upon his personal experience, — that of four cases (seen within a period of eighteen months) in which abdominal section was performed. One case was successful, the patient being now in perfect health.

CASE I. Rupture due to undue interference in the first stage (forceps and attempted version), the child being of unusual size. Operation two hours after the accident, the patient being in collapse from active internal hæmorrhage. The child's head had escaped from the rent, which extended from the cervix through the left broad ligament, half-way to the fundus. Child extracted through the rent, after application of rubber cord. Uterus removed, and pedicle treated by the extra-peritoneal method; on account of extensive laceration the entire stump sloughed out, but the patient made a good recovery.

CASE II. Cause of lesion identical with that in Case I. The injury was not recognized until twenty-four hours after the birth of the child, when the patient was already septic. Cœliotomy was performed. Transverse tear on posterior aspect four inches long, in lower segment, with commencing peritonitis. The rent was sutured, and thorough irrigation and drainage established. Death took place from shock twelve hours later.

CASE III. Moderate contraction of anterior conjugate, with large child. High forceps application was unsuccessful. Delivery was accomplished after difficult version. In removing an adherent placenta the accoucheur withdrew a coil of small intestine, which prolapsed through a rent in the posterior wall of the uterus. It was replaced (as was supposed), and the opening was plugged with iodoform gauze. Abdominal section was then regarded as unjustifiable on account of profound collapse. The writer saw the patient eighteen hours later, and found her in fair condition, the upper portion of the vagina being filled with intestine. He proposed and performed cœliotomy at once. There was a transverse tear posteriorly in the lower segment, extending from between the bases of the broad ligaments. It was too extensive to suture, so both broad ligaments were clamped, and the uterus was extirpated *in toto* in five minutes. It was found that the intestine had not been replaced, but had been nipped in the edges of the rent, so that at least three feet were black and gangrenous. Irrigation and gauze drainage per vaginam. Death from shock ten hours later.

CASE IV. Spontaneous rupture during normal labor, not recognized. Collapse five hours later, but no external hæmorrhage. The writer saw the patient twelve hours after the accident, and diagnosed rupture of the uterus with internal bleeding. A consultation was held, and the unanimous opinion was that there was an extensive laceration into the left broad ligament, and that active hæmorrhage was in progress, which it was necessary to arrest. There was doubt as to whether the rent extended into the peritoneal cavity or not. Exploration advised. This was conducted rapidly. No blood found in the abdominal or pelvic cavity. There was an immense hæmatoma of the left broad ligament, extending upwards into the corresponding iliac fossa. The abdom-

¹ Abstract of a paper presented at the Annual Meeting of the American Medical Association, May 5, 1891.

inal wound was closed and the vagina tamponed with gauze, although there had not been any external hæmorrhage whatever. Death from shock.

Many cases of spontaneous rupture are doubtless unrecognized by the general practitioner. Profound shock after delivery should always awaken suspicion, even if there is only moderate external hæmorrhage; and a thorough examination should be made. Text-books give rules for recognizing rupture only during parturition.

The rules laid down for the treatment of rupture are uncertain and confusing. The tendency of the practitioner is towards purely expectant treatment. He would perhaps pack the vagina with gauze, and wait. This course is too often fatal. The emergency is a surgical one, and is to be treated according to the ordinary rules of surgery. The fact that successful cases of cœliotomy for rupture of the parturient uterus are comparatively rare is no more an argument against the operation than if it were applied to gun-shot wounds of the abdominal viscera.

In analyzing the unsuccessful cases it will generally be found that the operative interference came too late, that is, from eight to eighteen hours after rupture. The writer's successful case was as unfavorable as could be imagined, but the patient was operated upon promptly, as soon as the lesion was discovered. Two methods of active treatment are now recognized and practised, namely:

- (1) Drainage per vaginam.
- (2) Abdominal section, followed by either (a) drainage, (b) suture of the tear, or (c) amputation of the uterus. Simple drainage has some powerful supporters (mainly in the Vienna school), and the statistics are apparently convincing; but it is not capable of general application to all cases, and the indications are not always clear, because without opening the abdomen it is frequently impossible to determine the following important points: (1) the nature and extent of the tear; (2) the presence of active hæmorrhage; (3) the presence of blood and amniotic fluid in the peritoneal cavity.

The writer thinks that abdominal section is indicated under the following conditions:

- (1) Before the uterus is emptied. (a) When the placenta or any portion of the fœtus has escaped through the rent, attempts at manual delivery only increase existing shock and destroy the patient's chances after section, as invariably shown by records of unsuccessful cases. (b) Where there is evidence of progressive internal hæmorrhage.

- (2) After the uterus is emptied. (a) When there is extensive prolapse of the gut through the tear; (b) in all complete lacerations (especially in those involving the broad ligament), except small tears low down near the vaginal fornix, where good drainage can be maintained; (c) in incomplete tears in which the broad ligament is extensively involved, and there is evidence of progressive hæmorrhage.

Parvin's summary is a comprehensive one, namely: "Probably the solution of the question is this, that where the tear is in such a position that vaginal drainage is perfect, the abdomen need not be opened; but, if such drainage is impossible or imperfect, then section is indicated."

What shall we do after opening the abdomen?

- (1) Arrest hæmorrhage, either with forceps or the temporary rubber ligature.

- (2) If the tear is small (two inches) and is low down in Douglas's pouch, drainage per vaginam may be indicated.

- (3) If the tear is clean-cut, without contusion of the edges, and does not involve the cervix or broad ligaments, it may be closed with deep and sero-serous sutures.

- (4) If the tear is not low down, is extensive, with contusion of the edges, and especially if a portion of the fœtus protrudes, amputation of the uterus, with extra-peritoneal treatment of the stump is indicated.

- (5) In extensive transverse tears in the lower segment, and in tears beginning in the cervix and extending upwards through the broad ligament, the writer would strongly urge the propriety of total extirpation of the uterus as the operation *par excellence* (as it is in many cases of hystero-myomectomy), for the following reasons: (a) It requires less time than Porro's operation, and is quite as easy, especially if the patient is placed in Trendelenburg's posture. There should be no great shock or loss of blood. (b) All the contused tissue is removed, which if left behind in the stump, will inevitably slough and imperil the life of the patient. (c) Drainage is perfect, and after thorough irrigation and toilet of the peritoneal cavity, it can be closed, drainage being maintained per vaginam with iodoform gauze, as after vaginal hysterectomy.

In conclusion, the writer deprecates any intention of recommending a heroic method of treatment to the entire exclusion of a more conservative one. He is an avowed conservative in abdominal surgery, but believes that rupture of the parturient uterus is a desperate emergency, in which a fatal termination is the rule, and that it requires prompt and energetic treatment, according to the rule of modern surgery. The fact that the statistics of cœliotomy in these cases has shown a large mortality, is not an argument against the operation. In every case the accoucheur, if not himself a surgeon, should, without an instant's delay, summon experienced counsel and explain to the family that immediate resort to abdominal section may be necessary, as only by prompt interference can we improve statistics, and thus elevate the operation above the level of a hopeless and apparently unnecessary surgical experiment.

Clinical Department.

A FIVE-INCH HAIR-PIN IN THE RIGHT POSTERIOR NARES.

BY M. W. KELLIHER, M.D., PAWTUCKET, R. I.

ON Thursday, May 28, 1891, I was called to see Margaret B., age twenty. She said that the day previous, while dressing, she swallowed a pin. She had been to three physicians, and was informed that it was imagination on her part. I, too, thought that imagination was her highest prerogative. She insisted, however, that she had swallowed a pin, and thought she had felt it in the "back part of her nose." I asked in regard to the size of the pin, and was informed that it was a regular sized hair-pin. I now felt more incredulous than before. However, I inserted a probe into the right nostril, and found that there was a foreign body in the right posterior nares. I was able to find one rib of the hair-pin, but the end was inserted