generally adopted in preference to amputation is that the technique of the former operation has been too complicated. He rejects ligatures entirely, using forceps as in vaginal hysterectomy. His technique is as follows: The only instruments needed are a knife, a few pairs of hæmostatic forceps, large and small, and two curved Richelot's clamps, sufficiently long to grasp the entire broad ligament. The operator, standing between the patient's legs, makes the abdominal incision, and lifts the uterus out of the wound. An anterior peritoneal flap is made and the bladder is freed in the usual manner. The index and middle fingers of the left hand are introduced into the vagina as a guide, and the anterior fornix is opened. The cervix is separated from below as high as the bases of the broad ligaments, which are then included, each in a single clamp, introduced from the vagina, the thumb and index finger of the left hand serving as a guide. It then remains simply to divide the uterine attachments of the ligaments and the remainder of the posterior cul-de-sac. Bleeding points are grasped with long hæmostatic forceps from the vaginal side, and a simple gauze tampon is introduced and carried through into the vagina, the abdominal wound being closed. This operation can be completed in half an hour, and doubtless in less time. The writer has performed three by this method, the patients making a good recovery.

[We are not convinced, even by the writer's well-known success with clamps, that his method of removing the fibroid uterus *in toto* by the abdominal route is a more surgical or more successful one than that in which the arteries are ligated and the peritoneal flaps are sutured, thus rendering all the stumps extra-peritoneal and avoiding the necessity of even vaginal drainage.—H. C. C.]

The Technique of Curettage.

Löhlein (*Centralblatt für Gynäkologie*, 1895, No. 14), in comparing the relative advantages of the sharp spoon and curette, says that while the latter is the safer instrument, with the former one can scrape away the mucosa of the fundus, especially at the cornua, more thoroughly. The cutting-edge of the curette glides over the fundal mucous membrane at such a sharp angle that only the superficial epithelium is removed as a rule. The spoon is also preferable in removing intraparietal carcinoma of the cervical canal.

Accidents during Curettage.

Pichevin (*Annales de Gyn. et d'Obstétrique*, May, 1895) has collected all the cases of injury to the uterus by the curette, and groups them as follows:

1. Abortion due to the rough use of the instrument within the gravid uterus, of which many cases are on record.

2. Septic infection, which has not infrequently resulted fatally in preaseptic days.

3. Rupture of a pyosalpinx, as in a fatal case reported by Rochet. In the event of such an accident, vaginal hysterectomy or cœliotomy should be performed without delay.

4. Atresia of the uteri after curettage has been noted by Polaillon and Fritsch, but is rare.

5. Perforation is the most frequent accident, a case being reported by Richard as early as 1854, who, as well as Nélaton, called attention to the fact that it is often unattended by serious results. The same observation has been made by many subsequent writers.

As regards the causes of perforation, the writer finds that softening of the uterine wall following pregnancy is the most common, perforation of the non-puerperal uterus during curettage being quite rare. Frequent child-bearing, tuberculosis, and possibly cardiac disease seem to cause certain degenerative changes in the muscular tissue. If the softened uterus is retroflexed and fixed by adhesions, there is especial liability to the accident. Olshausen affirms that it is impossible to foresee and prevent it, an opinion shared by Ozenne, who demonstrated in a non-puerperal uterus a localized area in which the wall was extremely thin.

The seat of the puncture varies, being most apt to occur at the angle of flexion when the uterus is retroflexed and adherent. The most common point is at the cornua, in the neighborhood of the tubal orifices, where the wall is thinnest; as Léfour has shown, inflammatory lesions are most marked in this region. Doubtless the operator has often been at fault through carelessness, inexperience, or undue roughness. In some cases the perforation has been made with a steel dilator, and not with the curette at all.

The diagnosis of the lesion is sometimes made at the time, the operator feeling his curette suddenly slip through the uterine wall, while its extremity is clearly felt by abdominal palpation. Still one may be in error in inferring that he has caused a perforation when the curette suddenly slips into the fundus of a uterus which is deeper than was supposed. It has been explained that the uterus may become suddenly distended during curettage, due to a temporary paralysis of its muscle. The cautious use of the sound under these circumstances will demonstrate the fact that the organ is uniformly dilated. Under bimanual pressure it may be made to contract. Exceptionally the curette may enter the dilated proximal end of the tube, but most of the reported cases are hypothetical. Probably the instrument really slips into one cornu, which is more developed than the other. There is, of course, no doubt as to the occurrence of the accident when omentum or intestine appears at the os externum, as has been reported in several instances. In some cases the perforation was not suspected until fluid was injected into the uterus and failed to return. It seems more rational to infer that the fluid entered the peritoneal cavity by this route than through an abnormally patent tube.

Symptoms may be entirely absent in an aseptic operation. In other cases there may be a chill, rise of temperature, and moderate abdominal pain, without other phenomena. Sometimes, however, a localized peritonitis follows, which may become diffuse, especially in cases of suppurative disease of the adnexa. Slight hernia of the omentum usually gives rise to no symptoms, but if a loop of intestine prolapses through the uterine wound subsequent symptoms of obstruction develop. If the gut is severely injured during the operation, collapse may occur promptly, with a rapidly fatal issue, as in Martin's case. The escape of antiseptic fluids into the peritoneal cavity is attended with various phenomena—colic, chills and fever, and subsequent toxic or septic symptoms.

Certain precautions are necessary in order to avoid the accident. Thorough dilatation of the cervix is advisable before curettage, and two-branched dilators are preferable to any other instruments. The curetta is to be used gently, the operator beginning at the fundus and scraping from above downward, parallel with the vertical axis of the canal. The straight curetta is dangerous, especially when used in the cornua. Especial care is to be exercised in curetting the uterus after early abortions, and the sharp instrument should never be used in puerperal cases. The injection of iodine or perchloride of iron after curettage is reprehensible as well as unnecessary. Irrigation, preferably with sterilized water, should be practised under moderate pressure, sufficient dilatation of the cervix being maintained to allow a free return-flow.

If a perforation is caused, it is sufficient in the majority of cases to tampon the uterine cavity simply with gauze. Prolapsed omentum should be replaced if possible, or, this failing, the prolapsed portion may be excised. But in the case of a septic uterus it is better to open the abdomen, to excise the omentum, and to suture the uterine wound. The same general rules apply to prolapsed intestine. It may be necessary to resect the gut if it is extensively injured. Extirpation of the uterus is a dangerous operation, especially in the puerperal state. It may be performed under special indications, as when the wall is perforated in enucleating a fibroma. If fluid has been injected into the peritoneal cavity through the perforation, an incision into Douglas's pouch and drainage are indicated in the author's opinion, although vaginal hysterectomy has been advised and performed.

THE SUPPOSED INFLUENCE OF TROPICAL CLIMATE ON MENSTRUATION.

JOUBERT (*Indian Medical Gazette*, April, 1895) from a careful study of this subject, based upon over three thousand patients between the ages of ten and nineteen years, arrives at the conclusion that the reason why girls in tropical countries menstruate at a relatively earlier age than Europeans is not the influence of the climate, but of too early sexual excitement.

REMOVAL OF THE UTERINE APPENDAGES FOR NERVOUS DISEASES.

BAKER (*Ibid.*) concludes a recent paper on this subject with the following summary: 1. Disease of the adnexa is sometimes an unrecognized cause of nervous disease. 2. Nervous manifestations may be due to the adhesions resulting from a former localized perimetritis which impairs the functional activity of the adjacent pelvic organs. 3. The nervous symptoms may be out of proportion to the actual local trouble. 4. A thorough examination under anæsthesia should be made in every obscure case. 5. It may be necessary to remove healthy adnexa in order to cure certain extreme nervous disturbances.

The discussion of this paper turned mainly upon the question of the removal of normal ovaries and tubes, to which the consensus of opinion was decidedly opposed, Knapp and Prince taking the ground that the successful results sometimes noted after these operations were due either to suggestion or to some profound effect on the general nervous system which might have followed any other surgical procedure.

PÆDIATRICS.

UNDER THE CHARGE OF

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HEMORRHAGIC DIPHTHERIA.

H. AUSTEN and H. COGILL (*British Medical Journal*, March 30, 1895) give the notes of fifty-eight cases of hemorrhagic diphtheria occurring in a series of 880 diphtheria cases at the Western Fever Hospital, London, during 1893-94. Recovery occurred in one case, and in this the diagnosis was doubtful, being based on three ecchymoses of possible traumatic origin. In eleven cases the diagnosis was confirmed bacteriologically, six of these cases being of mixed infection. In the other cases the diagnosis rested upon clinical grounds. The fifty-eight cases were about equally divided as regards sex; as to age, twenty-four were under five years, and twenty-seven were from five to ten years. The local symptoms were severe, and the parts affected usually became the seat of hemorrhage. The tonsils and soft palate showed membrane in all cases, the larynx being involved in eighteen, the nose in three, the tongue in two, and the nose and larynx in two. The cutaneous hemorrhages were of two well-marked varieties—ecchymoses and purpuric spots, with occasional intermediate types. Hemorrhages from the mucous membranes were generally severe, epistaxis occurring in eighteen cases, hematemesis in ten, and melæna in two. The usual clinical course was that of a marked toxemia, with subnormal temperature rather than fever, vomiting, weakness of the heart, and a tendency to anuria. In almost every case post-mortem examination revealed internal hemorrhages, affecting most frequently the serous surfaces, but occurring also in the mucous membranes of the stomach and intestines. They were of frequent occurrence in the muscles, and when superficially seated were the cause of ecchymoses noted during life.

The treatment was that usually adopted, and, in addition, twelve received the antitoxin, including the one recovery. Six of these were moribund on admission. In three of the other six temporary improvement followed the injections; and in these the membrane disappeared entirely before death.

Hemorrhagic diphtheria may be compared to the hemorrhagic forms of the other infectious fevers in its uniformly fatal outcome. In diphtheria, however, the disease being primarily local and general manifestations secondary, it is not surprising that the course is more prolonged. Oertel has described degenerative changes in the bloodvessels, and these may determine the seat of hemorrhage.