

for even this to save the patient's life, enough poison having already been absorbed to prove fatal. The immediate, though usually short-lived improvement, following its use, is, nevertheless, sufficient to justify one in resorting to it in all desperate cases. It should be done without an anesthetic, or if one is used the stomach should first be washed out. By neglecting this precaution I one time had a patient drowned in the fluid her stomach contained.

Unless the patient is unusually weak, and in need of it, all nourishment should be withheld until the bowels have moved. If any is given it should be as hot as can be swallowed. It is more stimulating, more readily absorbed, less apt to produce gaseous distension. It should be left to the patient as to whether it shall be milk and lime-water or some meat broth. Food that is distasteful is much more apt to be rejected by an irritable stomach. For a day or two after the first movement of the bowels only liquid food in small quantities can be allowed, but the quantity and variety may be rapidly increased, and at the end of the first week her diet may usually be quite generous.

The pain suffered by patients after celiotomy varies from slight discomfort to that which is excruciating and unbearable. It is most severe in those cases of salpingo-oophorectomy where, on account of interstitial salpingitis, the stumps ligated are thick and hard to strangulate. Hysterectomies and ovariectomies for large cysts are followed by much less pain. It was formerly the custom to relieve this pain with morphin, but when the necessity for early and free purgation was recognized it was seen that the use of this drug was contraindicated. Morphin not only constipates the bowels and checks elimination in every way, but also nearly always produces more or less nausea, rendering the administration of purgatives more difficult.

I formerly adopted the usual practice of ordering that all morphin be withheld, gave my patient the not very comforting assurance that after twenty-four hours her suffering would be much less, and made my visits as few and short as possible, that I might not yield to her entreaties for relief. When at the end of twenty-four hours I observed how haggard and worn those patients were who had suffered severely, I always felt sure that had I been able to relieve their pain without producing nausea and checking elimination, they would have been in far better condition to battle against sepsis. To meet this indication I adopted the use of codein phosphate and chloral hydrate by the rectum. At both hospitals at which I work it has been a standing order for three years that if the patient suffers she shall be given such an enema; 3 grains of the codein and 30 of the chloral is a full dose for a robust woman. It may be repeated every four or six hours, if necessary. A second dose is not infrequently given, but rarely a third. The rectum absorbs fluid so readily after celiotomy that relief is surprisingly prompt. Lauder Brunton has pointed out the fact that ovarian pain may cause constipation, which is relieved by small doses of opium, and it seems probable that relieving the pain by these drugs, which are not markedly constipating in their action, may facilitate rather than retard peristalsis. At any rate my experience proves that the constipating effect, if there be any, is so slight that it may be practically disregarded.

If it is especially desirable for any reason to prevent vomiting, the enema may be given before the patient entirely recovers from the anesthetic; otherwise I have thought it advisable to wait an hour or two to give the

stomach a chance to empty itself of the secretions which have been pouring into it during anesthesia.

Next to pain, the symptom that patients complain most of is thirst. If there be any fluid in the peritoneal cavity, to be absorbed, it is advised not to relieve it. It is a question whether the good to be obtained by this treatment is not counterbalanced by the general depression caused by lack of circulating fluid, and the consequent inactivity of the kidneys. I am satisfied that the withholding of fluids may be overdone. It seems rational to believe that the benefits derived from the postural drainage of Clark are more from the stimulating effect of the salt water used, than from the carrying of the infectious material to a new and healthy part of the peritoneal cavity for absorption, for Nature, in her efforts to fight infection, pursues exactly the opposite course, limiting it to as small an area as possible, by every means at her command. The best way to supply the system with the required fluid is by rectal injection of normal salt solution, a half pint being given every two to six hours. A half ounce of very hot water by the mouth may be allowed every hour after the first four. It has a tendency to settle the stomach, and it pleases the patient to get something. The nurse should frequently wipe out the mouth with a moist cloth, but the patient can not be trusted to rinse it out for herself.

In conclusion, any surgeon who does a capital operation owes it to his patient, his profession, and himself, to see that everything possible is done to secure recovery. For this reason, only when it is absolutely unavoidable, should an abdominal section be done in the country and the after-treatment left to a practitioner inexperienced in this work.

## THE STUDY AND TEACHING OF OBSTETRICS.\*

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Child-bearing, though a physiologic function, is not without danger to both mother and child. Danger arises from two distinct sources. The first is external to the mother, and depends on her environment, in which her safety is menaced by infections that may occur during gestation, during labor, and during the period of lying-in. The second source of danger is internal in nature. It belongs within the woman herself, growing out of conditions that make the passage of the passenger unsafe or impossible. It finds expression in faulty physical development for which our modern methods of living are largely responsible; in faulty development of the parts concerned in parturition, and in accidents of mechanism.

The treatment of the first source of danger must be prophylactic and remedial, while that of the second must be mechanical, and includes a wide range of surgery. If a perfect prophylaxis is observed, remedial measures will fall into disuse, while a thorough knowledge of, and training in, methods for the second will contribute greatly to the safety of child-bearing. To make obstetrics a stepping-stone to some other branch of surgery is fatal to skillful obstetrics.

In the last ten or fifteen years obstetrics, in our country, has had a marked uplifting. Our best schools of medicine are giving the subject more attention than ever

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before. Students are asking for more thorough work and increased facilities for practical training. In schools requiring a four years' course the subject may be profitably graded, to consist of a junior and a senior course in obstetrics. For the junior course only normal obstetrics should be taught. This insures a reasonable amount of time for drill in the fundamental principles of the subject, and lays the foundation for careful conscientious practice.

Before entering further on methods, a few words regarding qualifications essential in the teacher may not be out of place. First, the teacher must be thoroughly in love with his chosen subject and with the work of teaching. He must be a student himself, coming in close and sympathetic touch with his pupils; he must always be the interested, enthusiastic student-teacher, carrying his students with him as willing followers. In his practice of obstetrics, each case, though he may have seen hundreds of similar ones, must be studied with as undivided and careful attention as his cases in early practice. Each phase and feature, carefully observed, keeps freshly filled the store-house of experience from which he is to draw daily supplies for his pupils, and from which he must draw with a generous, unselfish mind and heart. Time is saved to teacher and student by the use of a good text-book. To instill life and interest into the recitations, the teacher amplifies the lesson out of his own experience and by demonstrations on material from the working museum.

In the first semester the student should become familiar with the obstetric pelvis, static and dynamic. Its axes and diameters, together with the diameters of the fetal head, and its conformations should be as familiar to him as the alphabet, for this knowledge forms the foundation on which he must build all future knowledge of obstetrics. The diameters of the pelvis, and its inclinations are best taught by comparisons made by means of the pelvimeter. The student should make the measurements, first on the dry pelvis, and then on the pelvis of the living subject. He learns to use the pelvimeter, of its advantages and its disadvantages, and obtains a comprehensive idea of differences in the pelvis compatible and also incompatible with safe and normal labor. He should systematically learn the steps taken in abdominal palpation, and should be firmly impressed with the importance of this means of reaching a diagnosis, making the vaginal route a secondary step, not in importance but in order. Before entering on the study of obstetrics, work in embryology prepares the student to readily distinguish the clinical features, diagnostic of the age of gestation at which the embryo and fetus was expelled or perished *in utero*, and he reaches this end by means of his text-book and demonstrations made on preserved and fresh specimens. The subject of diagnosis should enter into the course as early as possible, and be made a marked feature throughout the entire two years of instruction.

At the end of the first semester he is, or should be, ready to begin the work of the second, which includes the normal mechanism, the management and physiologic phenomena of normal labor, together with the management of the lying-in period, and the care of the newborn. He also learns the prophylactic treatment of dangers arising external to the patient, which includes, as a chief feature, the technic of surgical asepsis and antiseptics in its every detail. At this time, drill on the manikin prepares the student to take charge of normal cases, always under the personal supervision of an able and painstaking clinical demonstrator. At the bedside

he now learns to apply and verify what he has learned from his text-book, and his teacher in the classroom and the clinic.

The drill on the manikin with the normal fetus, or with the dummy, is of supreme importance to the student. He sees and understands for himself the wonder-inspiring process of accommodation of the fetal diameters to the pelvic dimensions. He begins to accept as demonstrable truth what before seemed only half truth, and he is willing to again and again repeat his assigned task, for he is beginning to love the work, and to desire its mastery.

After the student has thoroughly mastered the normal mechanism of first position vertex, he may begin to study departures from this first and normal standard: the second position in head with its anterior and posterior positions, to be followed by other varieties of head presentations in which delivery can be spontaneous. Breech presentations are then studied in detail. During these different exercises on the manikin he should be taught the judicious use of the hands in aiding spontaneous delivery; such as aiding flexion when extension prevents progress; watching and aiding rotation forward in the second posterior position; aiding the delivery of the shoulders, and the different manual methods of delivering the after-coming head. While manual interference properly belongs to abnormal obstetrics, it impresses the details of mechanism on the student mind, and teaches the use of his hands. The student must not be passed too rapidly over the exercises on the manikin, or he becomes confused, and fails to divine important steps one from another. Mastering each step as he advances, he becomes more and more interested in the work, and studies his subject for itself, and not for the forthcoming examination, which he should pass with credit at the end of the year.

The second or senior year should be devoted to pathologic obstetrics. In order to place the student on an independent footing, for which he has been prepared in the junior year, it seems best to drop the use of any particular text-book, and to assign his work by topics. Having his topic, he is free to consult any text-book or books available. He not only by this means gains a comprehensive idea of his subject, but he learns how to use his text-books. I have found it a profitable exercise to assign a particular topic for the whole class, both in the junior and senior courses, for investigation, requiring each student to write an essay on the subject assigned, giving the literature consulted. It is surprising the amount of research an enthusiastic, intelligent student will accomplish by adopting this method.

The surgery of the puerperium, the pathology of pregnancy and of the puerperium must receive due attention. While operative obstetrics is made a prominent feature of this year's work, especial attention should be given to the obstetric forceps. No student should be allowed to leave his school without a safe knowledge of this instrument, which he will gain only by the study of it as a mechanical appliance, and by thorough drill in its use on the manikin. The teacher should carefully guard the student against forming bad and careless habits in the execution of a forceps operation. How and when to make traction should be strongly emphasized and proper movements insisted on. Whenever an error is committed, the student should be required to correct it then and there, and be made to see his error, and to understand its correction. Beginning with the low operation he learns coolness, deliberation and the methods of making proper traction. From the low, he is advanced to the

medium, then to the high operation, learning in each case the meaning of "axis traction." It is unfortunate for the student's comprehension that the "axis traction" is so universally used to mean high operations or inlet operations. All traction made by forceps must be axis traction, whether their application be made at the pelvic brim, the pelvic cavity or at the pelvic outlet. Hasty, jerky and impulsive movements made by the student when using the forceps should bring from his teacher words of correction. A lack of knowledge of, and experience in, the important matter of applying the forceps, characterizes the work of the young, and sometimes the older practitioner as clumsy and dangerous.

Practical work in obstetrics should be required of each student before graduation, and to enable him to apply what he has learned from his text-book and his teacher he should be required to keep a systematic record of each case attended. In this way he can learn what can not be taught so well in the classroom; the characteristics of true and effective labor pains and of anomalous and inefficient pains; the indications for the application of forceps and the contraindications for their application. The record sheet should make a part of the year's course, and of the final examination, as an evidence of his fitness to practice obstetrics. The requirement of record keeping impresses the student with the importance of supervising each case that may come to him for care. It helps him to form systematic habits of thinking and of making observations that must contribute to a successful practice, and to the science of obstetrics. In the pathologic laboratory, room should be made for the study of disease and unhealthy conditions so frequently met with in pregnant and lying-in woman. In order to make his work useful and with a given purpose, clinical reports of cases, including pathologic studies made in the laboratory, may be required of the student.

Thus equipped at graduation, he is in a condition to make a post-graduate course in some good maternity, of value to him for further preparation for the practice of obstetrics.

### EARLY OVARIOTOMY; ITS PRACTICAL NECESSITY.\*

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The time has long gone by when the growth of ovarian tumors was watched until they attained enormous proportions and were finally tapped to prolong the life of the doomed victim. Such tumors are almost extinct. We very rarely see them. The time has also passed, when ovariectomy was delayed until every other means, including repeated tapplings, had exhausted the patient's strength and the operation was then performed as a last resort. The comparative safety of the operation, the inevitable growth of the tumor if left alone, and the possible later complications are facts so well known to physician and layman, that consent is readily obtained for early removal.

As is but too frequently the case with uterine carcinoma and with unruptured tubal pregnancy, the early stage of ovarian cystoma may likewise pass without subjective symptoms; the physician is not consulted until the patient herself notices some enlargement, or until it is discovered by accident. The rapidity of growth of such tumors can only be estimated. We are obliged to date them from the time of observation. At this time, un-

less malignant, they are considered harmless; the advice is accordingly given to put off their removal until they interfere with health and comfort. The family physician who gives such counsel hardly realizes what mischief his advice may ultimately cause. This lack of up-to-date information is not surprising when we recall the proportionately small number of cases that pass through the hands of any one individual. My motive in writing this paper is to bring more prominently before the profession the many accidents and complications that happen with small, as well as with recent growths of this kind. Note that neither the size, nor the age of a tumor is a criterion of the possible immediate or remote dangers from its presence.

A few typical cases have been selected to exemplify the various complications that may arise even in the early stage of ovarian cystoma, or that may result from delay. A number of these cases have heretofore been published in detail, and many others have from time to time been reported and the specimens exhibited to the local society. Only a brief synopsis will therefore be presented at this time to emphasize the special points to which attention is called.

It would prolong this paper beyond its scope to dwell on the subject of malignant cystoma, because if recognized early, we are all agreed that they should be removed at once.

Papillomatous tumors are classified as semi-malignant. Whether malignant or benign, removal before rupture, or before penetration of the cyst wall is likely to be curative. On the other hand, recurrence is the rule when the contents have escaped and have become disseminated. Both visceral and parietal peritoneum become secondarily infected and patients survive but a limited period. Absorption of the papillary excrescences and consequent complete recovery are the exceptions. A differential diagnosis between benign cysts and unruptured papillomatous cysts can not be made. The latter are liable to burst at any time and thus to contaminate the abdominal cavity. The only safe course lies in the removal of the tumor.

CASE 1<sup>1</sup>.—Referred by Dr. A. F. Meyer. Mrs. S., aged 28, mother of three children, first noticed enlargement two weeks after birth of the last child, nine months ago, when she was larger than at term. She has been tapped three times since, is anemic and much emaciated. The diagnosis was ovarian cystoma, probably malignant. At the operation, Dec. 12, 1890, the broad ligament and peritoneum were fused by inflammatory adhesions. Papillary outcrop had penetrated the cyst wall and proliferated freely on the surface of the peritoneum; tumor removed; warty tufts not removable. Recovery followed with gain of twenty-five pounds in weight, but death from recurrence two years later.

CASE 2.—Referred by Dr. J. R. Smith. Mrs. S., aged 31, mother of two children, noticed a rapid increase in size of the abdomen the past four months, and was tapped three weeks ago. She is anemic and emaciated. The abdomen was filled with free fluid, in which a large nodular tumor was felt floating. The diagnosis was papillomatous cystoma. Operation, June 30, 1891, revealed a large quantity of ascitic fluid; multilocular tumor with extensive omental and sigmoid adhesions; peritoneum and pelvic floor studded with papillomatous growths. The tumors were removed; growths remained. Recovery followed, but death from recurrence ten months after operation.

CASE 3.—Referred by Dr. M. Albl. Mrs. C., aged 31,

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<sup>1</sup> Cleveland Med. Gaz., September, 1890.