# THE TECHNIQUE OF GYNECOLOGICAL SURGERY.

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I. During the last decade the surgical mind has been intensely occupied in the erection of protective measures for surgical cases.

Every system of protection has been based upon the idea that certain deleterious germs living in the atmosphere, in the water, or upon the surface of the patient's body, upon the instruments, or in the surgical dressings must be destroyed. Pasteur originally conceived the idea that without germs no putrefaction could obtain. Lister evolved this idea from a surgical standpoint, and the result of the evolution was his antiseptic system. After years of experimentation, his conclusion was that carbolic acid possessed the properties of a reliable germicide, and was a desirable dressing for wounds. From that time forward new germicides were proposed by new thinkers, and to-day every prominent surgeon is found using one or another germicide, or discarding all. The tech-

nique of a gynecological operation from Kiel to Vienna a few years ago, and possibly even now, might be encompassed by the two words—carbolic acid. Recently we hear much of the mercuric solutions. In Great Britain the Listerites were in the ascendancy. In the United States the methods of Mr. Lister, accompanied by its carbolic acid, slowly but surely captured the profession.

The reactionary wave of opposition to the carbolic acid feature of Lister's method was set in motion by Thos. Keith, Prof. Von Bruns, Dr. Bantock, and Mr. Lawson Tait. This wave completely submerged the usefulness, if indeed any ever existed, of carbolic acid, and while it did this, it stimulated inquiry as to why, under Lister's system, surgical mortality has been decreased.

Keith, Bantock and Tait, by a long series of operations, proved beyond a doubt that, in so far as intra-abdominal operations were concerned, it was the cleanliness, which was of necessity a part of Lister's system, which was to be credited with the good results of the entire system.

Mr. Lister affirmed that the orifices of the human body swarmed with bacteria which, if not destroyed, would produce suppuration in wounds made in their neighborhood. It is rational, therefore, to infer, that great care should be observed in operations in the nostrils, mouth, rectum, and vagina. The gynecological surgeon would be the one most likely able to determine to what extent this assertion is correct. Experimentation is so often such an expensive school that few men can afford to attend it.

At the present time there is probably not a single continental gynecologist who rejects germicides. The same may be said of the gynecologists of our own country. But it is equally true that a large number have ceased to use carbolic acid, and that some use a germicide to wash out the cavity in which it is proposed to operate, and also apply a germicide to the line of the closed wound, but who rely upon cleanliness and boiled water throughout the operative procedure. The gynecological surgeon operates not only upon the surface, but also in the outlets of the body, and within the peritoneal cavity. He has proven that a clean surface, clean tools, clean sponges, clean assistants, and complete irrigation, coupled with surgical dexterity, constitute the requisites for the obtaining of good re-

sults in the great majority of intra-abdominal operations—the exceptions being cases of malignant disease, long-continued drainage, accidental intestinal obstruction, or uremic poisoning from contracted kidneys.

Carbolic acid has been shown to be an additional source of danger, producing higher temperatures than would otherwise obtain, and of producing congestion of the kidneys.

During the past five years a very considerable portion of my own surgery has been done in my private hospital. For about four years no carbolic acid has touched the patient. After the closing of the abdominal wound, a layer of iodoform gauze and a heavy layer of cotton have constituted the entire antiseptic feature of the operation, excepting that the surface of the abdomen, prior to operation was washed with soap and water and then with a $\frac{1}{1000}$ solution of bichloride of mercury. The result has been that the abdominal wounds have healed by first intention, and in but two instances have abscesses formed in the neighborhood of the wound, eventually discharging through a stitch-hole. In the last seventeen sections for ovarian disease, there were sixteen complete operations and sixteen recoveries. Free irrigation of the abdominal cavity was practised in all; very little sponging was done; excepting in one or two cases, no opium was given, and the bowels were moved daily by means of a seidlitz powder or a teaspoonful of sulphate of magnesia. The cases caused neither loss of sleep nor anxiety on the part of nurses or doctor.

To elucidate more clearly the technique which five years of experience has caused me to adopt, the following ovariotomy is given in detail from the note-book.

Prior to the operation all instruments are thoroughly cleansed and scalded, and every pincet point and needle-eye is passed through a spirit-flame. Ligatures are kept on reels submerged in an antiseptic solution, which is scalded out before they are used.

Case 63.—Mrs. B.—Beaver Co., Pa., aged 31 years; married fourteen years; widow four years; five children, no miscarriages; last confinement five years ago. Tumor discovered about one year before operation, growing rapidly during the last few months. Tumor about the size of the uterus at term. The instruments, sponges, and ligatures were placed in hot boiled water. The operator and his assistant washed their hands and

arms thoroughly with soap and water, then with ammonia water, and finally dipped them in a $\frac{1}{1000}$ solution of bichloride of mercury. The incision through the abdominal wall was made rapidly, occupying a few seconds only; the cyst exposed, evacuated through a trocar, pulled through the opening, the pedicle tied and burnt, and the cyst removed in four minutes. The fingers were then passed into the abdominal cavity and a careful examination of its contents made. The operation being as hurried as might be up to this point, great care and deliberation were exercised in the succeeding stages.

The abdominal cavity was carefully washed out with warm boiled water, all blood, fragments of tissue or foreign material of any kind floated out, and the surplus water removed by sponges attached to holders.

Before securing the wound a large flat sponge was placed over the intestines under the site of the incision; the stitches inserted, after which the sponge was removed.

After the wound was closed, some iodoform was rubbed along its edges, a strip of iodoform gauze placed over it, then a heavy layer of absorbent cotton, and the whole secured by a binder. The entire operation lasted thirty minutes; the recovery was uninterrupted.

So much for the technique of the abdominal work. The principal work done in the vagina consists of cervical and perineal operations.

When the cervix alone is operated upon, the silk-worm gut suture is used, the ends being left long.

When cervix and perineum are operated upon at the same sitting, catgut or very fine silk is used in the cervix, neither requiring attention before the perineum has entirely healed. In perineal operations not involving the sphincter ani muscle, the same variety of silk is used. These sutures are all superficial, and excepting three or four, lie entirely within the vagina.

The time occupied in operations for lacerated cervix, single or double, varies from five to twenty minutes—and in perineal operations from fifteen to twenty-five minutes—the latter requiring more thought and careful examination as to the exact variety of tear which has occurred.

In this operation it is the rule to carefully repair only such tissue as has been injured, and never to destroy with scissors or knife, tissue which has not been injured.

Before operation, in either case, cervix or perineum, the vagina is washed out with hot water after the vulva has been

cleansed with soap and water. This douche is repeated after operation, the vagina dried with cotton or a soft sponge, and the parts operated upon covered with iodoform. As a rule a rise of temperature above 99° does not occur. Union by first intention is the uniform result. In neither operation is pus ever seen, nor is the patient inconvenienced beyond the necessity o lying in bed.

The older I grow in experience the more I am inclined to believe that cleanliness, with dexterity in operating, are the secrets of success, and I think it is at least wise to relegate all chemicals to a secondary position.

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