

### Recent Results in Hysteromyomectomy.—DR. KELLY.

The technique of no operation in the field of gynecology has been so rapidly advanced as that of hysteromyomectomy. Until a few years ago the removal of a myomatous uterus was considered one of the most dangerous operations, and was only resorted to when the patient's life was in imminent danger from the further growth of the tumor or from the secondary results such as high grade anæmia, pressure from adjacent organs, etc.

Less than twenty years ago the first attempts at the extirpation of these myomatous uteri were made, and the mortality following these operations was so appalling as to cause all but a few to shrink from the operation.

Some ten years ago, Professor Schroeder, of Berlin, with the courage of his convictions, began with great earnestness to advocate the total extirpation of myomatous tumors, and although his attempts were followed by a very high rate of mortality he persisted, believing that better results would follow as the steps of the operation were perfected. These anticipations were not realized during his life, but in the light of the statistics of to-day his prophecy for the future is well sustained. At the present time the mortality following this operation is little if any greater than that following the average run of ovariectomies.

We now consider the operation indicated when the tumor is rapidly growing even though no uncomfortable symptoms are produced by its presence, as sooner or later, in the great majority of cases, untoward symptoms will arise which not only endanger the patient's life, but also render the operation in the presence of these complications much more difficult.

As will be seen from the analysis of 50 cases of hysteromyomectomy, made for me by Dr. Clark, there are quite a number of indications for operation.

From the standpoint of relative frequency of myoma in the white and colored race this analysis of 50 cases, while small in number, yet serves to bear out a statement made by me some months ago before the South Carolina Medical Society, that myomata were as frequent in white as in black women.

A number of those present at that meeting took exception to this remark, claiming that white women were able, being better situated financially, to come greater distances for treatment than were the impoverished colored women who, perforce of circumstances, must remain at home.

But according to the relative frequency as indicated by this table the proportion is as 6½ to 1, there being 43 whites to 7 blacks. Of the latter 6 appeared to be of pure African descent, the seventh was a mulatto.

While the criticism offered by these gentlemen bears a certain weight, yet from the very fact that we are in the center of a large negro population in Maryland and the adjacent States of Virginia

and Delaware, the proportion should be very different from this which I present, if the statement that myomata are more frequent in the colored than in the white race is to be sustained.

The ages of the patients at time of the operation averaged 42.5 years, the oldest being 59 and the youngest 25 years of age.

This part of the analysis is interesting as showing the prevalence both among physicians and laity of the belief that these tumors will disappear or cease to give rise to discomfort after the menopause.

In a number of these cases the tumor had been discovered two or three years, in a few instances many years before the operation, the patients having delayed operation in the hope that the menopause would relieve them.

Although the above opinion is still held by many worthy gynecologists I give it little credence, as according to my experience, instead of decreasing in size, a number of these tumors take on their most active growth after the menopause, while in many other cases the menopause is delayed five years or longer by their presence.

Continuing the analysis further, I find that 37 of the women were married and thirteen single. Of the former, twenty-three bore fifty-six children. Seventeen miscarriages occurred among this number; one patient, however, furnishing ten of these, the remaining seven being distributed among the 22 other women.

The prevailing belief is that these women are as a rule sterile. In the great majority of these cases which I report no children had been borne after the tumor had attained a great size, but on the average the fertility of these women was little below normal.

The following data relating to the menstrual flow bear out the usual statement, namely, that there is deranged menstruation, usually tending to profuse and irregular flow. Of the 50 cases, 9 were normal as to menstrual function; in 35 the flow was excessive, often inclined to free or profuse hemorrhage; while 5 had passed the climacteric.

The major indications for operation were increasing size of tumor, secondary anæmia from persistent or profuse hemorrhage, and pressure symptoms; of the 50 cases, 30 presenting this group of symptoms. In two cases excessive hemorrhage alone was the indication; in four, rapidly increasing size of tumor, although accompanied by no unpleasant symptoms; in five, severe pain. Another indication is the urgent request of a patient to be relieved of her tumor. In such cases I usually advise the patient to wait a certain length of time, usually from six months to one year, and if she is then still urgent in her request I will operate. Two cases in this list were of this character. In one case there was profound mental depression, verging closely on to melancholia, caused by constantly brooding over the fact that she had "a tumor." Operation was followed promptly by complete restoration of the patient's spirits.

In one case the tumor was not detected until pregnancy was six months advanced, and then it so blocked the inferior strait as to require Caesarean section for the delivery of the child. In this case the uterus was amputated and the pedicle dropped and the abdomen closed as in the ordinary hysteromyomectomy.

Of the remaining 50, one was the subject of an intense pruritus vulvæ, from constant discharge; another, of prolapsus uteri, and a third had attacks of urinary suppression, while two had peritonitis.

Although myomatous tumors are often thought to be unaccompanied by pain, yet my analysis shows that of the 50 cases, 21 complained of pain of varying intensity, from a heavy dragging sensation in the pelvis to acute pain in the region of the uterus or ovaries, often resembling "toothache." A considerable proportion referred their pains to the legs and groins, evidently due to pressure on the sacral and lumbar plexuses.

A complication not infrequently associated with these tumors is inflammatory disease of the appendages, varying in degree from slight adhesions to purulent salpingitis. In this list which I present one such case is found. The presence of pus necessarily renders the operation more dangerous, as the liability to infection

is very greatly increased. In a second case there was a pyometra, the pus escaping into the pelvis when the uterus was amputated. This patient, however, made an uncomplicated recovery. As a precaution against the general distribution of the pus the stump was surrounded by pads of gauze, and at the completion of the operation, before closing the abdomen, the pelvis was thoroughly irrigated with salt solution.

A few words as to the evolution of hysteromyomectomy.

The first mode of operation systematically described and generally adopted was that of Hegar.

According to his method the abdomen was opened, the tumor lifted out, a rubber ligature thrown around the pedicle, the uterus amputated, and the pedicle suspended in the abdominal wound by means of pins. The stump was dressed for two weeks or longer until it gradually separated, leaving a granulating pit in the bottom of the wound. Schroeder soon modified this method by dropping the stump, but his operations were followed by such a high rate of mortality as to prevent the general adoption of this operation.

After having followed Hegar's method in two cases, in Philadelphia, I devised a new operation, which I described as the combined extra- and intraperitoneal method. This included the best principles of Hegar's and Schroeder's methods. Hemorrhage frequently arose from the slipping of the constricting ligature in the Hegar operation. The pedicle was often large, and the encircling ligature, although controlling the hemorrhage during the operation, would subsequently slip after the disappearance of the temporary oedema, and fatal bleeding would follow. This no doubt was the cause of death in many cases.

Schroeder, as did the general surgical world, assigned his high rate of mortality to two causes—sepsis and hemorrhage.

It was accepted without question that the sepsis came from the cervical canal. I was convinced of this fact, and only conducted the first part of my operation according to the plan of Schroeder.

After amputating the tumor I carefully approximated the cervical stump, leaving the sutures long, by means of which I drew the stump up into the lower angle of the abdominal wound, and detained it there by catching the ligatures with artery forceps.

I then attached the peritoneum to the stump on all sides, and closed the abdomen down to the lower angle. Without exception these cases did well, and the wound filled in nicely with granulation tissue.

After having employed this method satisfactorily in a great many cases, I decided to drop the stump completely into the abdominal cavity as one does the pedicle of an ovarian tumor.

Since adopting this method I have performed 50 operations, with only three deaths, the latter being in no way traceable to infection from the stump.

One death was due to septic catgut, another to shock, and the third to sepsis which arose from a superficial eczematous patch in the fold of the abdomen. This patch was protected by a sealed dressing, but during the operation it became displaced. There was extensive infection of the abdominal wound in this case, the peritoneal cavity being free of pus.

Looking back at Schroeder's high rate of mortality we can arrive at but one conclusion, and that is that his antiseptic precautions were not sufficient.

I am now quite certain that a healthy cervical canal does not give rise to infection in these operations.

With regard to hemorrhage, there is little danger if the ligatures are properly placed. There are but four great channels of blood supply to these tumors, regardless of their size, be they large or small, the two ovarian and two uterine arteries.

The two ovarian arteries can be caught easily above and tied off. The accompanying veins are frequently enormously enlarged, and care must be observed not to prick them with the needle, as embarrassing hemorrhage will follow such an accident.

These vessels should be tied also on the uterine side, and cut

between the ligatures, thus preventing the blood which remains in the tumor from running down and obscuring the field of operation. Having secured this source of hemorrhage, the broad ligaments are opened, and by dissecting down between their layers with the finger the uterine arteries, the remaining sources of blood supply, are felt beneath the finger on the floor of the pelvis. If these are firmly ligated there is no necessity of throwing a provisional rubber ligature around the base of the tumor while it is being amputated.

The tumor is removed by a circular incision, the vesical peritoneum being first dissected off, as it will be used later to form a hood for the stump. The pedicle is cupped, and with three or four silk sutures of medium size (No. 2) the surfaces of the flaps are brought into apposition. The edges usually require two or three sutures to complete a snug approximation. The redundant peritoneum is then brought together with a continuous silk suture (No. 2), and the female pelvis is converted into one of the male type, all of the structures between the rectum and bladder having been removed.

From the analysis of 50 cases it will be seen that the operation for the total extirpation of myomatous uteri is eminently successful, and when a case presents any of the indications enumerated above should be operated upon.

#### SUMMARY OF 50 CASES OF HYSTEROMYOMECTOMY.

*Age.*—Youngest, 25 years; oldest, 59 years; average, 42.5 years. 29 of the 50 cases between the ages of 40 and 50.

*Married.*—37.

*Single.*—13.

*Color.*—6 blacks; 1 mulatto; 43 whites.

*Children.*—13 married were sterile; 23 married women gave birth to 58 children.

*Miscarriages.*—17 miscarriages occurred, one patient furnishing 10 of these, leaving only 7 to the remaining 22 married women.

*Menstrual history.*—Menses normal, 9 cases; menses profuse, often inclined to free or continuous hemorrhage, 36 cases; climacteric, 5 cases.

*Indications for Operation.*—Profuse hemorrhage, increasing size of tumor, secondary anæmia, and pressure symptoms, 30 cases; excessive hemorrhage, 2 cases; increasing size of tumor, 4 cases; pain, 5 cases; urgent request of patient, 2 cases; mental depression caused by presence of tumor, 1 case; myoma blocking inferior strait, preventing delivery of child, 1 case; suppression of urine, 1 case; intense pruritis, 1 case; prolapsus uteri, 1 case; peritonitis, 2 cases.

Of the 50 cases, 23 complained of pain, frequently quite severe, in the region of the tumor.

*Drainage.*—Gauze, 6 cases; no drainage, 44 cases.

*Stitch-hole abscess.*—4 cases.

*Mortality.*—6 per cent.\*

\* Since reporting these cases before the Johns Hopkins Medical Society I have completed my seventieth operation without any increase in the mortality.