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STUDIES ON THE EXTRAPERITONEAL - VAGINAL "ULTRARADICAL" OPERATION FOR CANCER OF THE UTERINE CERVIX

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With regards to the abdominal operations of the uterine cervix, since Wertheim (12) described radical hystercotomy, its radical grade has been widened further by Latzko (3) and Okabayashi (5, 6, 11). On the other hand, vaginal radical hysterectomy was first introduced by Schauta (9) and a modification was reported by Stoeckel (10) and Amreich (1, 7).

For the surgical treatment of the cervical carcinoma it is necessary to radically remove the carcinomatous uterus and its parametrium, and also to perform regional pelvic lymphadenectomy. Recently, Meigs emphasized the importance of en bloc dissections of the pelvic lymph nodes. However, it is almost impossible to perform pelvic lymphadenectomy in vaginal radical hysterectomy. In 1953 Mitra (4) introduced extra-peritoneal dissection of the pelvic lymph nodes.

The author (2) previously reported a modification of Mitra's

extraperitoneal lymphadenectomy and Amreich's vaginal radical hysterectomy. In the present paper an improvement on the conventional extraperitoneal and vaginal operations was made.

Selection of Patients and Their Preoperative Preparations

The subjects selected were patients with the cervical carcinoma of Stage I and Stage II according to international classification.

After each case of cervical carcinoma was studied microscopically, irradiation with radium was administered amounting to a total of 5,000 mg hours. The operation was performed two weeks after the last radium irradiation. It was noted that radium irradiation prevented secondary infection and reduced the size of the tumor.

Technical Procedure

The vaginal procedure was performed immediately after the extraperitoneal procedure was completed.

I. Extraperitoneal Procedure

1. Extraperitoneal separation of the lateral pelvic cavity: A midline incision between the umbilicus and the symphsis pubis is made. The rectus fascia is also incised. Lateral separation between the rectus muscle and the peritoneum is carefully performed in order to permit entry to the extraperitoneal lateral pelvic cavity.

2. Extraperitoneal lymphadenectomy: Lymphadenectomy by means of en bloc dissections is carried cut stepwise in the following five steps.

i) First step - The dissection of nodes around the external

iliac artery.

ii) Second step - The dissection of nodes around the common iliac vessels.

iii) Third step - The dissection of nodes around the external iliac vein.

iv) Fourth step - The obturator nodes are dissected from the obturator nerve and its surroundings below the level of the iliolumbar vein.

v) Fifth step - The fat and the areolar tissue over the internal iliac artery are exposed downwards. Having cleaned the ureteral nodes encountered in the angle formed by the ureter and the uterine artery, the lateral vesical nodes are dissected medially together with the fat and the areolar tissue by commencing laterally.

3. Extraperitoneal separation of the cardinal ligament(8):

1) Topography around the cardinal ligament.

2) Extraperitoneal separation of the cardinal ligament.

i) The dissection of the uterine artery.

ii) The dissection of the inferior and superior vesical arteries.

iii) The dissection of the internal pudendal artery.

iv) The dissection of the inferior gluteal artery.

v) The dissection of the obturator artery.

vi) The manipulation around the infrapiriform foramen.

The ischiadic nerve passes longitudinally in front of the piriform muscle, and enters into the infrapiriform foramen. A portion of the infrapiriform foramen is covered by the coccygeal muscle. The inferior gluteal and internal pudendal vessels pass through the infrapiriform foramen behind the coccygeal muscle.

The thin connective tissue membrane, arising from the major ischiadic incisura and covering most of the infrapiriform foramen in front of the coccygeal muscle, attaches laterally to the inferior gluteal vein before it enters the internal iliac vein (8).

Thus, after the thin connective tissue membrane is detached from the major ischiadic incisura, both inferior gluteal and internal pudendal vessels are ligated separately at two points, and are severed the two points.

vii) The dissection of the internal iliac vein. The internal iliac vein is ligated and severed at the point before it enters the superior gluteal vein. When the lateral sacral vein interferes with the separation, it is also ligated and severed.

Thus, to summarize our new procedure, the thin connective tissue membrane is detached in front of the infrapiriform foramen; the inferior gluteal and internal pudendal vessels are severed; and the internal iliac vein is severed before it enters the superior gluteal vein. Then, the cardinal

ligament attached to the internal iliac vein is readily freed medially. In the conventional procedure used by Wertheim, Latzko and Okabayashi, the cardinal ligament is severed through itself, but in our new procedure the cardinal ligament itself is not manipulated and is removed radically as it is.

On closing the incision in the extraperitoneal procedure, a silk suture is attached to the upper end of a rubber drain, and it is fixed to the abdominal skin. The lower end of the drain is drawn out into the vagina later in the vaginal procedure.

II. Vaginal procedure

The vaginal procedure is performed immediately after the extraperitoneal procedure has been completed. Since the cardinal ligament has been freed in the extraperitoneal procedure, the vaginal procedure is limited to the separation of the ureter by cutting the vesical pillar, cutting of the rectal pillar and exstirpation of the adnexae. Thus, no manipulation is necessary deep in the pelvic cavity, and Schuchard's vagino-perineal-levator incision can be aboided.

1. Formation of the vaginal cuff.
2. Separating the bladder from the cervico-vaginal wall.
3. Opening of the lateral paravesical cavity.
4. Freeing of the left ureter.
5. Freeing of the right ureter.

6. The incision of the peritoneum and the removal of the adnexae.

7. Closing of the pelvic peritoneum.

8. Severence of the rectal pillar.

9. Ultra-radical hysterectomy. Since the cardinal ligaments have been separated from the pelvic wall via the extraperitoneal route and the urinary bladder, rectal pillar and adnexae have been cut via the vaginal route, the uterus is, thus, exstirpated with the adnexae by ultra-radical surgery.

The authors have performed ultra-radical hysterectomy on 198 cases over a period of 3 years from February, 1961 to January, 1964. During this time, injury of the urinary bladder was seen in 3 cases (1.5%), and injury of the ureter was seen in one case (0.5%). None of the cases died. Recurrence within 2 years after the operation was recognized in 2 cases out of 130 cases. The five-year survival rate has not been obtained as yet.

The postoperative course and pathological studies of the removed specimens will be discussed elsewhere.

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