

## Cervix Cancer Associated with Pregnancy

### — A Case Report and Review of the Literature —

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Invasive carcinoma of the cervix during the pregnancy is relatively uncommon. It must be considered fetal viability, tumor control as well. If the carcinoma is diagnosed in the first or second trimester, treatment should be undertaken immediately. At the third trimester, treatment should be deferred until the fetus is viable.

**Key Words:** Cervix cancer, Pregnancy, Radiation therapy

### INTRODUCTION

An invasive carcinoma of the cervix is rarely discovered in pregnant patients. The incidence of the carcinoma of the cervix among pregnancy shows variable rate in different reports, ranging from approximately 1 case in every 2,204 pregnancy to 1 per 15,987 pregnancy<sup>1)</sup>.

Publications from some cancer centers revealed that about 1 percent of carcinoma of the uterine cervix are pregnant at the time of diagnosis<sup>2-4)</sup>.

Because cervical cancer is uncommon in pregnancy, it's rarity frequently leads to delay in diagnosis and to confuse in treatment and this all complicates any evaluation of the therapy and prognosis.

We will report one case and review it's related literatures to guide for this unexpected opportunities.

### CASE REPORT

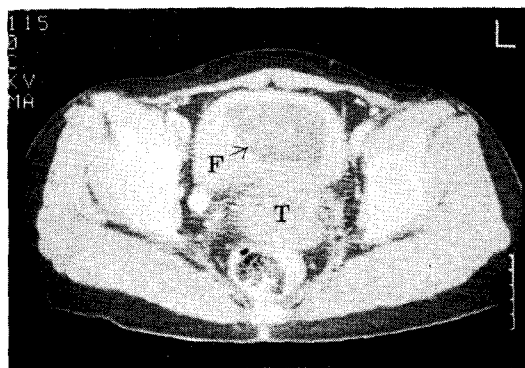
A 40 year-old female patient visited for the vaginal spotting of 6 months duration on Nov. 1987.

She had past history of the chronic cervicitis.

At the administration, initial pelvic exam revealed that abory 4×4 cm sized exophytic mass involving whole direction of cervical os and left parametrium was shortened and thickened, so the FIGO staging was IIB.

Punch biopsy showed squamous cell carcinoma. Ultrasonography revealed that she was in pregnancy 20th week state.

CT finding showed that 4×4 cm sized homogenous mass was located in the cervix and enlarged uterus contained fetus & amniotic fluid



**Fig. 1.** CT finding showed that 4x4cm sized homogenous mass (T) was located in the cervix and enlarged uterus contained fetus & amniotic fluid (F).

(Fig. 1).

Radiation therapy was started promptly.

At the dose level of 2340cGy (the 21th RT day), we could not find no fetal heart movement on the ultrasonography.

Thereafter, external-irradiation was extended to 3960cGy but expected spontaneous abortion had not occur. So vaginal fetal expulsion was performed using prostaglandin F<sub>2α</sub> derivatives (Nalador®) without any problems. After 1 week rest, external radiotherapy was extended to 5040cGy. Two weeks later intracavitary radiation therapy (ICR) was performed and then point A was delivered 3000cGy.

The result of radiation therapy was complete remission.

She was alive and well for 13 months.

## DISCUSSION

### 1. Symptoms and Diagnosis

Vaginal bleeding is the most common symptom.

But asymptomatic patient is about 14% to 30% of total patients, especially in stage IA. This fact emphasize the importance of Papanicolaou smear.

Physician's delay is particularly noticable in the first trimester for fear of disturbing a threatened abortion, in the second and third trimester for fear of disturbing placenta previa. It is emphasized that any bleeding at any time during the pregnancy demand inspection and cytologic examination of the cervix. Especially in the third trimester, physician must prepare "double set up" for the cesarian section due to placenta previa<sup>9</sup>.

Routine cervical biopsy is recommended at curettage for incomplete abortion.

Diagnostic conization of the cervix is indicated even in pregnancy when the cytologic, colposcopic finding indicate that suspicious invasive cervical carcinoma, not only to diagnose cervical neoplasm but also to determine the depth of invasion<sup>7</sup>.

If conization section revealed that cancer is not the invasive disease in the superficial stroma and did not involve lymphatics or vascular channel, stage IA have been planned delay until delivery at term without progressing the disease<sup>13</sup>.

Cervical conization during the pregnancy can lead to severe complication particularly hemorrhage and loss of the fetus.

If necessary, it is probably best to perform this during the second trimester not to delay last trimester at which time the greatest operative blood loss occurred<sup>9</sup>.

### 2. Effect of Pregnancy on Prognosis

It was often postulated that the pregnancy may have definite effect on the developing neoplasm.

There will be increased circulation, increased lymphatics with more edema and faster tumor growth potential during the pregnancy<sup>9</sup>.

Tissue softening may mistake the examiner to underestimate the clinical extent of disease.

It is still widely accepted that pregnancy changes in the epithelium of the cervix which simulate or mimic preinvasive squamous cell carcinoma and are indistinguishable from it<sup>9</sup>.

If the patients reach term, the dangers of labor

are greatly increased because of (1) the risk of intrauterine infection from the infected carcinoma (2) interference with dilatation of the cervix, with possible spontaneous rupture of the lower uterine segment and (3) danger of hemorrhage from the laceration of the tumor<sup>10</sup>.

In the past, it had been thought that pregnancy might have an adverse effect on cervical carcinoma but this has not been proven on the recent result<sup>11-13</sup>.

### 3. Mode of Treatment

Before 1970, many physician preferred radiation therapy to surgery because there were much bleeding and possible disseminating tumor cell in pregnant patients during operation<sup>1,5</sup>.

Thompson et al<sup>9</sup> at Emory University reported 42 obstetric patients with pregnancy with surgical trial at first. Extensive abdominal hysterectomy and pelvic lymphadenectomy was done in stage IA (14), stage IB (9), stage IIIA (3) patients. They achieved same cure rate and mobility compared with radiation therapy in addition to avoid the premenopause in young women from radiation sequelae<sup>9</sup>.

Although an enlarged uterus can interfere with operative field, increased uterine motility and edema of the pelvic tissue helps to simplify the procedure. Another benefit of surgery is maintenance is maintenance of vaginal integrity and function in young women<sup>14</sup>.

But pregnancy does increase risk of blood loss inevitably.

It is nearly established in recent literature as following treatment principles. If the carcinoma is diagnosed in the first or early in second trimester (before 20 weeks gestation) treatment should be undertaken immediately because the delay over 4 months would lead to tumor progression or spread<sup>15</sup>.

After 20 weeks gestation, hysterotomy should be done before radical surgery to facilitate dissection. Hysterotomy should also be performed before radiation therapy because of the expected delay in spontaneous abortion following external irradiation and the teratogenic risks<sup>12</sup>.

Lesser than stage IIB, radical hysterectomy and node dissection is recommended.

Patients with stage IB barrel-shaped lesions, ie, bulky endophytic cervical lesions, should be treated with combination of radiation & surgery<sup>16</sup>.

For higher stage tumor more than stage IIB, therapy is begun with external irradiation of 4000

to 5000cGy. This lead to spontaneous abortion between 3 to 6 weeks after the external irradiation is started<sup>15,16</sup>.

Prem and colleagues<sup>17</sup> reported an average interval of 32.7 days between the beginning of external irradiation and abortion in the first trimester with a range of 27 to 50 days. In the second trimester, fetal tissues were less sensitive to irradiation, so spontaneous abortion was more delayed and occurred less. The average interval from the start of external irradiation to abortion was 43.9 days, with a range of 33 to 66 days<sup>17</sup>.

If the pregnancy does not spontaneously abort, dilatation and curettage, prostaglandin assisted delivery or rarely hysterotomy may be necessary.

In the third trimester, the baby should be delivered by cesarean section as soon as fetus is viable (usually 36 weeks gestation) and then primary treatment should be performed<sup>14,16</sup>. A classical type of cesarean section is preferred to the low cervical section since the latter bring about the possibility of cutting into the tumor.

#### 4. Mode of Delivery and Survival

It is generally agreed that vaginal delivery did not adversely affect the outcome. Nevertheless, it is advisable that vaginal delivery are avoided because extensive laceration with hard to control bleeding, infection and dissemination of the tumor cells<sup>13,17</sup>.

The most important factor that determine the survival of the patient is the stage of disease at the time of diagnosis.

It is predominant opinion that survival rate in pregnant patients are similar to those in non-pregnant patients, stage for stage<sup>1,2,5,6,10,11</sup>.

The favorable overall prognosis for pregnant patients is related to a greater proportion of stage I disease<sup>12</sup>.

As the gestational age in which diagnosis are made, persons diagnosed during the first trimester had a better prognosis than the third trimester, the postpartum group had the poorest.

For more than advanced gestation, pregnancy has an unfavorable effect on prognosis. The reason for these may be related to problems with radiation dosimetry in pregnancy and the need to interrupt radiation therapy more frequently because of genital tract sepsis<sup>2,4,15</sup>.

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＝ 국문초록 ＝

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이 태 준 · 권 형 철

임신중의 침윤성 자궁 경부암은 비교적 드물다. 임신중 자궁경부암 치료는 암의 제거뿐 아니라 태아의 생명도 고려해야 한다. 임신초기 및 중기에 진단을 받았을시에는 치료는 즉시 시작되어야 하고 임신후기에는 태아의 생명력이 있을 때까지 치료는 연기되어야 한다.

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