

Cervical Carcinoma and pregnancy

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Summary

Abortion and conization of the cervix is the treatment of choice for patients with preinvasive cervical carcinoma combined with first-term pregnancy. With the second and third term, the pregnancy is led to delivery and a secondary examination is carried out. In case of preinvasive carcinoma only conization of the cervix is performed. In late-term pregnancy the surgical operation starts with a cesarean section. A combination of cervical carcinoma and pregnancy was observed in 31 (44%) of 6,890 patients admitted to the Gynecological Clinic of the National Cancer Center from 1964-2001. Of 1,911 patients with radical hysterectomy (Stage I – 58.4%, Stage II- 21.8%, Stage III – 20%) a combination of cervical carcinoma and pregnancy was diagnosed in 31 women [Stage I - 23 (74.2%), Stage II – 4 (12.9%), Stage III – 4 (12.9%)]; 93.5% of the patients had a first or second term pregnancy. Five-year survival of the patients with surgery only was 83.3%, while with combined therapy – 60%. Twenty-nine percent of the patients were 30 and younger. Pregnancy contributed to early manifestation of cervical cancer and did not favor the aggression of malignant tumor growth. The five-year survival rate of patients without staging and those combined with pregnancy was 72.7%; five-year survival rate of patients with early pregnancy was worse compared to those with second or third term pregnancies. Pregnancy is not a contraindication for performance of radical hysterectomy.

Key words: Cervical carcinoma; Pregnancy; Survival.

Introduction

The combination of a malignant tumor and pregnancy is a very important problem from both a biological and medical point of view. The biological aspect of the problem constitutes a unique phenomenon – a combination of autonomous uncontrolled cellular growth of malignant tumors and the controlled physiological growth of pregnancy. The medical aspect of the problem is the study of the rate of frequency of this combination and course of the disease, and finding the optimum solution for the fate of the mother and the fetus [3, 8].

Despite the large number of publications, the combination of malignant tumors and pregnancy has not yet been studied sufficiently, which could account for the infrequency of the cases and small number of clinical observations. Thus, the problem of a combination of malignant tumors and pregnancy is still a pressing one [2, 5, 6].

It should be mentioned that pregnancy is mainly combined with malignant tumors of the reproductive system (cervix, mammary glands, ovaries) (67.5%), with cervical carcinoma in first place (44.2%) [1, 7].

According to the data on hand, about 15-18 women aged over 40 (per 100,000 pregnancies) have cervical carcinoma in Georgia. The same rate of occurrence is characteristic for cervical carcinoma for the whole female population, meaning that pregnancy little affects the rate of cervical carcinoma [1].

Some clinicists [1] exclude the unfavorable effect of pregnancy on the clinical course of cervical carcinoma. According to another group of authors [4], late pregnancy and the postnatal period have an adverse effect on the results of treatment of cervical carcinoma. Apart from this, there is the so-called reverse dependence between the prognosis for the mother and child and the period of pregnancy. The prognosis for a child is more favorable at detecting carcinoma in the third trimester, while for the mother - in the first trimester. [8].

Materials and Methods

A total of 6,890 women with cervical carcinoma were admitted to the Gynecological Clinic of the National Oncological Center for a period of 37 years (1964-2001) (Table 1). Among those admitted, the combination of cervical carcinoma with pregnancy was observed in 31 (0.44%) cases. Colposcopy was widely used for early detection of cervical carcinoma in pregnant women.

One thousand nine hundred and eleven (27.8%) women were subjected to extended extirpation of the uterus due to cervical carcinoma including the combination with pregnancy, while the others underwent radical treatment. There were women in the postnatal period (2-3 months after labor) among the patients operated on, but they are not included in the total number of the combination of cervical carcinomas with pregnancy. This may be the reason for the low indices of the combination of cervical carcinomas with pregnancy.

Our treatment of the combined cervical carcinomas with pregnancy is as follows: abortion and cervical conization in the first trimester in cases of preinvasive carcinoma, while with second and third trimesters the pregnancy continues until labor. After labor a repeated examination is carried out and in cases of preinvasive carcinoma the cervix is conized. In cases of microinvasive carcinoma the uterus is completely extirpated with a wide cuff of the vagina.

In cases of invasive carcinoma and an extended extirpation of the uterus remote irradiation is carried out. In the event of late pregnancy caesarean section and high supravaginal amputation of the uterus precede the extended extirpation. Such tactics facilitate an extended extirpation.

Results

The combination of cervical carcinoma and pregnancy is mainly observed in women aged 30-39 and very rarely above 40 (average age 33-34). Cervical carcinoma was detected in two-thirds of the pregnant women in the first trimester and only two patients (6.5%) were in the third trimester. All the patients were operable and subjected to extended extirpation (Stage I - 23, Stage II - 4). The histomorphological examination revealed that 87.1% of the patients had epidermoidal carcinoma, while in the other cases glandular and non-differentiated cancer was diagnosed. In 66.7% of the epidermoidal cancers carcinomas with keratinization were observed.

Twenty-nine patients in the first and second trimester had a maximum period of pregnancy of 28 weeks, and they were subjected to extended extirpation without prior excision of the fetus. One of the two patients with a third trimester fetus had a 30-week pregnancy and the other a 36-week pregnancy. It should be mentioned that due to the friability of tissues, extended extirpation of the uterus is easier during pregnancy than in normal cases.

After extended extirpation of the uterus, the vaginal stump was sewn with a pharmaceutical nodal structure in six cases, left semiopen in 14 cases and in 11 cases it was left open.

Nine of 31 patients underwent only surgical intervention, while 22 were subjected to postoperative remote gamma therapy.

As shown in Table 2 the distribution of the patients according to the stages somewhat changed after the operation. Three patients in Stage I and one patient in Stage II had metastases in the lymphnodes and due to this reason they were attributed to Stage III (12.9%). Therefore, 23 patients (74.2%) remained in Stage I and four (12.9%) in Stage II. According to the development of the carcinoma all the patients with Stage II had a vaginal-uterine variant. Metastases in the regional lymphnodes were detected in 11.5% and 20.0% of the patients with Stages I and II, respectively. In all cases metastases in the lymphnodes were registered in cases of epidermoidal carcinomas. It should be mentioned that occurrence of metastasis in the regional lymphnodes was two times less with histotypes of keratinized carcinoma (16.7%) than in cases of nonkeratinized epidermoidal carcinomas (33.3%).

Table 1. — *Rate of the combination of cervical carcinoma and pregnancy at the Gynaecological Clinic of the National Oncological Centre according to age and term of pregnancy of the patients (1964-2001)*

Total number of patients with cervical carcinoma	Combination of cervical carcinoma and pregnancy	Age of patients			Term of pregnancy according to the trimesters		
		20-29	30-39	40-49	I	II	III
6890	31 0.44%	9	17	5	22	7	2

Table 2. — *Pre- and postoperative stages of cervical carcinoma combined with pregnancy at the Gynaecological Clinic of the National Oncological Centre (1964-2001)*

Number of patients	Distribution of the patients according to stage					
	I		II	III		
				Total	T _{1b} N ₁	T _{2b} N ₁
Before surgery	31	26 83.9%	5 16.1%	—	—	—
After surgery	31	23 74.2%	4 12.9%	4 12.9%	3	1

According to the data on the localisation and types of carcinomas, they were more frequently located in the region of the ectocervix (61.9%) and rather rarely in the region of the endocervix (9.5%), while a combined localisation was detected in 28.6% of the patients. According to the types, exophytic growth prevailed (in 66.6% of the cases), while the endophytic type was observed only in one case. Carcinoma on the vaginal part of the cervix was always of exophytic type, while the combined localisation was characterised with exo-endophytic growth.

Postoperative complications (1 - sepsis, 1 - lymphocyst, 1 - hydronephrosis) with favourable results were observed in three women. In nine cases (29.0%) postoperative development of uresis discomfort was detected (Table 3) - ischuria and residual urine, which disappeared after conservative treatment.

Remote five-year results of the treatment (Table 4) were studied in 22 patients. Five-year survival without staging constituted 72.7%. At the same time the treatment turned out to be successful in 78.6% of patients with Stage I, recovery of the patients with Stage II was detected in 75% of cases. One patient with Stage III died in the fifth year of the study due to progression of the disease, two are alive and there is no information about the fourth one.

Five-year survival after surgical treatment totalled 83.3%, while after complex therapy – 60%. Favourable five-year results of cervical carcinoma in I-II-III trimesters (Table 5) of pregnancy were 66.6%, 80% and 100%, respectively. Eleven of 15 patients in the first trimester are alive, one (6.6%) had recurrence of the disease which developed at the fourth year of observation. Four patients of five with a second trimester pregnancy are alive; there is no information available about the fifth.

Depending on the histological structure of the tumor (Table 6) the maximum rate of survival (87.5% of patients) was observed in cases of non-keratinized carcinomas. Of 54.5% of the patients with epidermoidal keratinized carcinomas who are alive, one had recurrence of the disease. In the cases of glandular and low differentiated cancer the patients are still alive. Depending on the age of the patients, 72.7% of the favorable outcomes were detected in the women aged 30-39. Five-year survival in the women aged below 30 totalled 9.1%.

Table 3. — Postoperative discomfort due to uresis of patients with cervical carcinoma in combination with pregnancy.

Number of patients	Discomfort of uresis	Duration (days)	
		4-10	10 <
31	9 29.0%	7	2

Table 5. — Five-year survival of patients with cervical carcinoma in combination with pregnancy according to trimester at the Gynaecological Clinic of the National Oncological Centre (1964-2001)

Trimester	Number of patients	Alive		Died	No information available
		without recurrence	with recurrence		
I	15	10 66.6%	1 6.6%	4 26.6%	—
II	5	4 80%	—	—	1 20%
III	2	2 100%	—	—	—
Total	22	16 72.7%	2 4.5%	4 18.2%	1 4.5%

Table 4. — Five-year survival of patients with cervical carcinoma in combination with pregnancy according to the stages at the Gynaecological Clinic of the National Oncological Centre (1964-2001)

Stage	Number of patients	Alive		Died of		No information available
		without recurrence	with recurrence	main disease	other diseases	
I-pT ₁ N ₀	14	11 78.6%	—	3	—	—
II-pT ₂ N ₀	4	3 75.0%	1	—	—	—
III-pT ₁₋₂ N ₁	4	2 50%	—	1	—	1
Total	22	16 72.7%	1 4.5%	4 18.2%	—	1 4.5%

Table 6. — Five-year survival of patients with cervical carcinoma in combination with pregnancy according to cancer histotype at the Gynaecological Clinic of the National Oncological Centre (1964-2001)

Histotypes	Number of patients				
	Total	Alive		Died	No information available
		without recurrence	with recurrence		
Epidermoidal with keratinization	11	6 54.5%	1 9.1%	3 27.2%	1 9.1%
Epidermoidal without keratinization	8	7 87.5%	—	1 12.5%	—
Glandular	1	1	—	—	—
Low-differentiated	2	2	—	—	—
Total	22	16 72.7%	1 4.5%	4 18.2%	1 4.5%

Discussion and Conclusion

Based on the research carried out we can conclude that cervical carcinoma during pregnancy is revealed at earlier stages which contributes to pregnant women undergoing colposcopy; pregnancy does not promote aggression of the malignant growth. For instance, at Stages I and II metastases in the regional lymphnodes were detected in 12.9% of the patients, whereas the same affection among regional lymphnodes was detected in 25% of the 1,911 patients undergoing Wertheim's operation. Remote five-year results of the treatment of cervical carcinoma in combination with pregnancy and without it at Stages I and II totalled 78.6% and 68.2%, respectively, and 50.0% and 51.2% at Stage III.

Five-year results of complex therapy were worse than in cases of surgical treatment. It could be attributed to the fact that in cases of small tumors the treatment at Stage I was limited only to extended extirpation of the uterus. A well-established idea, that the best results of treatment are detected in cases of keratinized epidermoidal carcinomas, was violated. In fact, higher efficiency of the treatment during pregnancy is observed in the cases of non-keratinized epidermoidal, glandular and low-differentiated carcinomas.

Of course, the results obtained are interesting, but it should be taken into consideration that the small number of observations does not allow us to make any final conclusions. Pregnancy does not constitute a technical barrier for the performance of Wertheim's operation.

References

- [1] Bokman Y. V., Charkviani L.: "Malignant Tumours and Pregnancy". *IV USSR Oncological Congress*, Leningrad, 1986, 99, 148.
- [2] Barber H. R. K.: "Gynecologic Tumors in Pregnancy". In: "Modern Trends of Gynecologic Oncology". Nagell Y., Barber H., Y. Wriglit, (eds.), Boston, 1982.
- [3] Barber H. R. K.: "Gynecologic cancer complicating pregnancy". *Gynecol. Oncol.*, Amsterdam, 1990, 283.
- [4] Kinch R. A.: "Factors affecting the prognosis of cancer of the cervix in pregnancy". *Am. J. Obstet. Gynaec.*, 1961, 82, 46.
- [5] Natenadze N., Charkviani L., Chitiashvili R.: "Cervical carcinoma and pregnancy". *Eur. J. of Gynecol. Oncol.*, 1991, 12, 38.
- [6] Charkviani L., Natenadze N., Tsintsadze T., Charkviani T.: "Management of cervical carcinoma and pregnancy in the oncological centre of Georgia – 9th International Meeting of Gynecological Oncology, Abstracts, Knokke (Belgium), 1995, 9.
- [7] Charkviani L., Tsintsadze T., Natenadze B.: "Cervical carcinoma and pregnancy - Abstracts of the I Meeting of Oncologists of NIS Countries". Moscow, 1996, 476.
- [8] Charkviani L., Charkviani T., Natenadze N., Tsintsadze T.: "Management of carcinoma cervix during pregnancy - FIGO XV World Congress of Gynecology and Obstetrics". Copenhagen, 1997, 32.

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