SHORT COMMUNICATION

Cancer in Pregnancy

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Cancer incidence in pregnancy occurs in approximately 2 in 1,000 pregnancies at King Abdulaziz University Hospital, Jeddah, Saudi Arabia. Twelve cases of cancer in pregnancy are presented, and some of the effects of cancer therapy in pregnancy are discussed.

Cancer in pregnancy is an unsusual event. It occurs in approximately 1 in 1,000 pregnancies[1]. The obstetrician and gynaecological oncologist is faced with a therapeutic dilemma involving surgical, perinatal, obstetric, physiological and moral issues. It is a very devastating experience to the patient and her treating physician; and it is a very frustrating situation to the physician because of the lack of information available about malignant disease in pregnancy, and that there are two individuals: the mother and the fetus.

Twelve cases of cancer in pregnancy were seen at King Abdulaziz University Hospital over two years period and the effects of cancer therapy in pregnancy are discussed.

CASES AND RESULTS

Twelve cases of cancer in pregnancy were referred to King Abdulaziz University Hospital over two years period. The total number of deliveries were 5,617. Therefore, the rate of cancer in pregnancy at our institution was 2.1 in 1,000 pregnancies.

Cancer distribution according to site was as follows: 3 cancer of the cervix, 3 lymphoma, 2 gastro-intestinal cancer, 2 cancer of the breast, 1 ovarian cancer and a thyroid cancer.

Table 1 is a summary of the 12 cases.

DISCUSSION

In our institution cancer occured in 2.1/1000 pregnancies. It had been estimated that cancer may complicate 1 in every 1000 pregnancies. Table 2 shows the incidence of cancer in pregnancy[1,4-8].

Anatomical and physiological changes that occur during pregnancy might obscure early neoplasm and make the diagnosis very difficult on clinical grounds. The best example of this is carcinoma ofthe ovary. Execerbation of some cancer can occur during pregnancy such as breast cancer. Increase in the vascularity and lymphatic drainage might have an effect on the dissemination of cancer[8].

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Table 1
Summary of 12 cases of cancer in pregnancy

Case No.	*Diagnosis*	*Age*	*Gravida*	*GA*	*Stage*	*RX*	*Outcome*
1	Ca. Cervix	31	5	28	IB	SUR	C/S 980 gm EARLY NND
2	Ca. Cervix	26	6	+2	III	RAD	SVD 300 gm BOY, L & W
3	Ca. Cervix	32	4	40	II	RAD	SVD 3000 gm BOY, L & W
4	*Lymphoma[3]	35	7	25	IV	CHEM	SVD 1970 gm BOY, L & W
5	*Lymphoma[3]	25	2	20	IV	CHEM	ABORTION 475 gm
6	Lymphoma[2,3]	38	7	23	IA	SUR	C/S 2400 GM BOY,L & W
7	Ca. Breast	35	3	38	II	SUR RAD CHEM	INDUCED VAG. DEL. 3100 gm GIRL, L & W
8	Ca. Breast	32	4	37	II	SUR RAD CHEM	INDUCED VAG. DEL 3000 gm BOY, L & W
9	Ca. Stomach	35	4	35	IV	SUR	C/S 2460 gm BOY, L & W
10	C-R Cancer	29	3	23	III	RAD	C/S APH SUR 650 gm EARLY NND
11	Ca Ovary	25	4	26	IB	SUR CHEM	C/S 2500 gm BOY, L & W
12	Ca. Thyroid	28	2	35	I	SUR	SVD 2980 gm GIRL, L&W

GA — Gestational age (Diagnosis)
SUR — Surgery
RAD — Radiotherapy
SVD — Spontaneous Vaginal Delivery
C-R — Colo-rectal
* Maternal mortality
NND — Neonatal death
CHEM — Chemotherapy
L & W — Living and well
C/S — Caesarean Section
Rx — Treatment

Table 2
Incidence of cancer in pregnancy

Site/Type	*Estimated Incidence / 1000 pregnancy*
Cervix Uteri	
Non-invasive	1.3
Invasive	1.0
Breast	0.33
Melanoma	0.14
Ovary	0.10
Thyroid	Unknown
Leukaemia	0.01
Lymphoma	0.01
Colo-rectal	0.02

Patient with cancer in pregnancy, poses therapeutic dilemma, because the patient is usually young and a second life is involved. Termination of pregnancy might be required. In our Islamic society, termination of such cases is permitted.

MODALITIES OF TREATMENT OF CANCER IN PREGNANCY

Surgery, radiotherapy and chemotherapy are the usual management options for cancer in pregnancy[8-10].

SURGERY

Surgery should be postponed to the second trimester if possible, for evaluation or treatment of cancer particularly intra-abdominal cancer. The incidence of spontaneous abortion is reduced.

Removal of ovarian cysts or complete ovarian resection may be safely accomplished in the second trimester when the placental production of progesterone replaces corpus luteum cyst[9].

The supine position of the patient during surgery might produce hypotention and hypoxia to the fetus and therefore, 15 degree wedge under the right hip will produce left uterine displacement of the inferior vena cava. Progesterone produces marked relaxation of the gastrointestinal smooth muscle leading to delay in the gastric emptying time and therefore may result in fastric dilatation[10].

RADIOTHERAPY

Pregnant patients receiving radiotherapy directed to the pelvis for pelvic malignancies will suffer a fetal demise and usually spontaneously abort. Patients receiving supra-diaphragmatic irradiation will receive only minor exposure, due primarily to internal radiation scatter, and may safely carry an early pregnancy. However supra-diaphragmatic irradiation in late pregnancy may expose the growing fetus to excessive radiation that will produce an acceptable fetal injury[10,11].

CHEMOTHERAPY

Information on the effect of chemotherapy on the fetus remains incomplete[8], but avoidance of cytotoxic chemotherapy should be the rule, not only in the organogenesis phase but in whole period of the first trimester of pregnancy[9]. Even a single chemotherapeutic agent, in the first trimester will lead to either spontaneous abortion or congenital anomalies of the offspring[10]. In the second and third trimester, a single chemotherapeutic agent rarely causes any congenital anomalies. In recent years, multiple reports confirm that even multiple agents chemotherapy in the second and third trimester rarely results in congenital anomalies.

Long-term sequence due to intra-abdominal exposure to cytotoxic chemotherapy remains unknown. It is possible that deleterious effect in the offspring of women exposed in utero to cytotoxic chemotherapy will occur. These patients require long-term monitoring.

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