SYNCHRONOUS SURGICAL REMOVAL OF SUSPICIOUS OVARIAN METASTASES FROM COLORECTAL CANCER

MOHAMMAD TALEBPOOR,* M.D., MOJGAN KARBKHS, ** M.D., M.P.H., SHOKOOFEH SABETI, *** M.D., AND MOOSA ZARGAR, * M.D.

From Sina Trauma & Surgery Research Center, Sina Hospital, Tehran University of Medical Sciences, Tehran, I.R. Iran.

ABSTRACT

Metastatic ovarian cancers occur in 3-8 percent of women undergoing surgical resection of a primary colorectal cancer. In this study we examined the characteristics of women with colorectal cancer for whom synchronous oophorectomy had been performed.

In this cross-sectional study, records of patients with colorectal cancer from April 1991 through October 1999 who had undergone surgery for both colorectal cancer resection and oophorectomy for suspicious ovarian metastasis in the Cancer Institute, Imam Khomeini Medical Center, were reviewed. SPSS version 10 was used for statistical analysis.

The studied cases (n=82) comprised 44.1 percent of all recorded cases of women with colorectal cancer during this period (N=186). The mean age of our cases was 52.19 years. 54.9% of the studied women were in stage C of colorectal cancer. The commonest pathology of tumors was adenocarcinoma (89%). Well differentiated carcinoma was observed in 43.9%, followed by moderately differentiated carcinoma in 37.8%, poorly differentiated in 12.2% and unspecified in 6.1%. 22 of our patients (26.8%) had gross abnormalities of ovaries at operation. In 13 cases (15.8% of our 82 studied cases and 6.99% of all 186 women with colorectal cancer), tumoral involvement of ovaries was proven through pathologic examination. 10 out of these 13 cases were among those with gross abnormalities of ovaries at operation (p=0.048). Among the 13 patients with ovarian metastasis, 11 cases (84.6%) were in stage C at operation (p=0.02) and 7 (53.8%) had well differentiated carcinoma (p=0.04).

Patients with ovarian metastases of colorectal origin are generally peri- or postmenopausal. Like similar studies, in our setting, about 7 percent of all recorded female
cases with colorectal cancer turned out to have ovarian metastases in surgical pathologic examination. In fact, 15.8% of our 82 cases sustaining surgery for "colorectal cancer and suspicious ovarian metastasis" proved to have ovarian metastasis. We recommend that prophylactic oophorectomy be performed in postmenopausal women with advanced stage colorectal cancer or any other woman with colorectal cancer with gross abnormality of the ovaries at operation.

**INTRODUCTION**

Colorectal cancer is a common malignancy among women, which may metastatize to the ovaries. Metastatic ovarian cancers occur in 3-8 percent of women undergoing surgical resection of a primary colorectal cancer. In this study we examined the characteristics of women with colorectal cancer for whom synchronous oophorectomy had been performed.

**MATERIAL AND METHODS**

In this cross-sectional study, records of patients with colorectal cancer from April 1991 through October 1999 who had undergone surgery for both colorectal cancer resection and oophorectomy for suspicious ovarian metastasis (either because of the advanced nature of the primary tumor or gross abnormality of the ovaries at laparotomy) in the Cancer Institute, Imam Khomeini Medical Center, were reviewed. In these 82 cases, the following characteristics were studied: age at diagnosis, menstrual status, anatomical site of GI involvement, stage of colorectal cancer, macroscopic abnormalities of ovaries at surgery, co-morbidities, ovarian metastases, tumor pathology, tumor grades, peritoneal involvement, CEA, lymph node involvement and distant metastases. In order to calculate the prevalence of ovarian metastasis in women with colorectal cancer, the number of the latter according to medical records in the Cancer Institute were also counted. SPSS version 10 was used for statistical analysis.

\[ \alpha = 0.05 \] was considered as the level of significance.

**RESULTS**

The studied cases (n= 82) comprised 44.1 percent of all recorded cases of women with colorectal cancer during this period (N=186). The mean age of our cases was 52.19 years (95%CI= 49.06-55.33). The age distribution of these patients is demonstrated in Figure 1. Fifty-five of our cases (67.1%) were postmenopausal at the time of the study.

In 64 of our patients (78%), the site of colorectal cancer had been the rectum, in 13 (15.8%) the colon was primarily involved and in 3 (3.6%), both colon and rectum were cancerous.

In 45 cases (54.9%), regional lymph nodes were involved. In fact, more than half of these women (54.9%) were in stage C of colorectal cancer, 30.5% in stage B, and 8.5% in stage A (and 6.1% were unknown). The most common pathology of tumors was adenocarcinoma (89%). Other observed pathologies were squamous cell carcinoma in 3 (3.6%), anaplastic tumor in 2 (2.4%) and colloid carcinoma in 1 (1.2%).

Considering the grading of tumors, well differentiated carcinoma was observed in 36 (43.9%), followed by moderately differentiated carcinoma in 31 (37.8%), poorly differentiated in 10 (12.2%) and unspecified in 5 cases (6.1%).

22 of our patients (26.8%) had gross abnormalities of the ovaries at operation. In 13 cases (15.8% of our 82 studied cases and 6.99% of all 186 women with colorectal cancer), tumoral involvement of the ovaries was proven.
through pathologic examination. 10 out of these 13 cases were among those with gross abnormalities of ovaries at operation ($p=0.048$). Among the 13 patients with ovarian metastasis, 11 cases (84.6%) were in stage C at operation ($p=0.02$) and 7 (53.8%) had well differentiated carcinoma ($p=0.04$). 12 of our patients (14.4%) had liver and lung metastasis who were all in stage C of colorectal cancer.

**DISCUSSION**

The ovaries provide fertile soil for metastases and are the most commonly involved organs in the female genital tract, regardless of the location of the primary tumor. The recognition of an ovarian tumor as metastatic is of vital clinical importance, determining the appropriate management and the likely outcome of the patient. Such recognition will also depend on awareness of the frequency of metastases to the ovary from different primary sites. There is a general agreement that most ovarian metastases are from the breast, gastrointestinal tract and female genital tract. In fact, the most commonly occurring metastatic carcinoma to mimic primary ovarian carcinoma is that of large bowel origin. In the first of our studies, 10 of 13 patients with ovarian metastases were in stage C at operation. $p=0.02$ and 7 (53.8%) had well differentiated carcinoma ($p=0.04$). 12 of our patients (14.4%) had liver and lung metastasis who were all in stage C of colorectal cancer.

Among the 13 patients with ovarian metastases, 11 cases (84.6%) were in stage C at operation ($p=0.02$) and 7 (53.8%) had well differentiated carcinoma ($p=0.04$). 12 of our patients (14.4%) had liver and lung metastasis who were all in stage C of colorectal cancer.

Although it is said that the differentiation of the primary colorectal cancer is not a risk factor for the development of ovarian metastasis, we observed a higher frequency of metastasis in those with well-differentiated carcinoma; this might have been due to the more smooth nature of colorectal cancer in these patients which provided them with a higher opportunity to come to the hands of surgeons for resection (and thus being included in our dataset).

We also observed that colorectal tumors in stage C had more frequently metastasized to the ovaries. Other studies support this relationship by indicating that most bowel tumors with ovarian metastases are Duke’s stage B or more advanced.

Although there is no evidence that prophylactic bilateral oophorectomy at the time of colorectal resection gives a survival advantage, some authors believe that prophylactic oophorectomy may reduce the chance of a second laparotomy for metastatic disease. In addition, the ovaries appear to be a fertile bed for metastases and a sanctuary site from chemotherapy. It should also be noted that women with colorectal carcinoma have an increased risk of developing primary ovarian carcinoma.

So in the case of prophylactic oophorectomy, the increased risk of developing primary ovarian cancer is also abolished.

We recommend that prophylactic oophorectomy be performed in postmenopausal women with advanced stage colorectal cancer or any other patient with colorectal cancer with gross abnormality of the ovaries at operation.

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**REFERENCES**

3. Daya D, Frank GL: Metastatic ovarian carcinoma of large intestinal origin simulating primary ovarian carcinoma.

M. Talebpoor, et al.
Ovarian Metastases from Colorectal Cancer

4. Shamsa AZ, Mohgheghi MH: National Project for Cancer Registry. Proposing a model by the National Cancer Registry. Final report of the project sponsored by Cancer Institute of Tehran University of Medical Sciences and the Deputy of Research, Ministry of Health, Treatment and Medical Education. Islamic Republic of Iran, 2002.


