Prophylactic Oophorectomy and Colorectal Cancer in Premenopausal Patients*

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Ovarian metastases from colorectal carcinoma have been reported to occur in 3 to 8 per cent of cases of adenocarcinoma of the colon or rectum. While microscopic metastases are occasionally reported, they are usually grossly apparent or suspicious at the time of colorectal surgery and may develop later, causing further operation and morbidity. Such patients have an extremely poor prognosis. In the medical literature we could find only seven cases of five-year survival following oophorectomy for adenocarcinoma metastatic from the colon or rectum. Because of a seeming low incidence of metastasis and the poor survival of these patients, there has been little interest in prophylactic oophorectomy for colorectal carcinoma. The survival of patients with microscopic metastasis and the incidence in premenopausal patients have not been previously emphasized.

Only a few reports of prophylactic oophorectomy are described in the medical literature. Rendelman and Gilchrist report 42 patients who underwent prophylactic oophorectomy. They used criteria developed following a review of 13 cases of metastatic carcinoma. Three of their 42 patients had ovarian metastasis but all were grossly apparent at the time of operation. Stearns and Deddish, in 1959, reported 63 women who underwent bilateral oophorectomy in connection with rectal carcinoma. Five of the patients had ovarian metastasis, with two patients surviving five years. There was no indication whether the metastasis was grossly apparent or microscopic at the time of operation. Quan and Sehdev reported similar findings and six metastases in 100 patients undergoing oophorectomy. Two of their patients survived 11 years following operation. Only one of their patients was under 40 years of age.

Many indications have been advocated for oophorectomy at the time of colonic surgery for carcinoma. Schenk and Sitzenfrey, in 1907, advocated prophylactic oophorectomy for all patients with gastrointestinal carcinoma. Burt, in 1951 and 1960, advocated oophorectomy in all women over 40 years of age with colorectal carcinoma. Bacon and Tavenner suggested the same, but to treat separate primary ovarian tumors associated with colorectal carcinoma. All but one of their patients were under the age of 50 years. A subsequent report suggested that two of their patients had metastatic ovarian tumors and not primary ones. Rendelman and Gilchrist advocate oophorectomy if (1) the ovaries are abnormal, (2) the tumor is contiguous to an ovary, (3) the primary lesion involves the serosa, or (4) there is widespread disease. It is noted that five of their 13 patients were premenopausal women. Golub suggested that oophorectomy was not justifiable under the age of 50 years. Five of the eight patients reported by Sherman et al. were less than 51 years of age and two were under the age of 35. They advocated oophorectomy in all women, regardless of age, but without knowledge of the incidence in premenopausal women. Knoepp et al. in a review of 10 cases of ovarian involvement, suggested prophylactic oophorectomy should not be performed in premenopausal patients unless there were obvious metastatic tumors, serosal involvement, or lymph node metastasis. Yet four of their 10 patients were under the age of 45 and two were less than 35 years of age.

Many at the Ferguson Clinic have advocated prophylactic bilateral oophorectomy in women with colorectal cancer regardless of age.

Clinical Material

From 1960 to 1976, 162 women have undergone oophorectomy at the time of colonic surgery or subsequently. Twelve patients had metastatic adenocarcinoma, an incidence of 7.4 per cent (Table 1).
Two of these patients were seen early and both were postmenopausal. One died two years after removal of the grossly apparent metastasis; the other is alive and well ten years after removal of an 8-cm metastasis to the left ovary.

Twenty-four patients were premenopausal and ten were under the age of 40 years. Six, or 25 per cent, of the premenopausal patients had metastasis at the time of operation or metastasis to the ovaries subsequently developed.

One 58-year-old woman had unsuspected bilateral microscopic involvement with no serosal involvement and only microscopic lymph node metastasis; she died from recurrent disease two years following her operation. A 53-year-old premenopausal woman had a benign cyst excised from one ovary at the time of operation. Eight months later she had a 7-cm metastatic lesion of the other ovary. There were no other metastases found at the time of the second oophorectomy; however she died two years and 10 months later with metastases to both lungs. Two other women, 23 and 22 years of age, with chronic ulcerative colitis and carcinoma, developed metastasis to the ovaries four to 10 months after primary operation. Both had curative resections, and only one had some small serosal involvement at the time of primary resection. Both had microscopic lymph node metastasis, but with no gross lymph node involvement at the time of surgery. One died shortly after her oophorectomy for metastatic disease; the other survived three years. At the time of the oophorectomy, there was no other evidence of metastasis. The fifth patient was a 33-year-old woman with obvious serosal involvement and no lymph node metastasis. Bilateral ovarian metastases developed six months following primary operation, and she died two months later. The sixth patient was a 44-year-old woman with chronic ulcerative colitis and two primary carcinomas and small peritoneal pelvic implants. Pathologic examination showed metastasis to one ovary which was grossly normal at the time of surgery. She died of wide-spread metastasis 10 months following operation.

Of these six patients, only two met the criterion of more than 40 years of age, and only one other met the criteria of Rendelman and Gilchrist25 of either gross ovarian involvement, serosal involvement, or apparent lymph node metastasis.

From January 1969 until December of 1976, of 484 women with colorectal carcinoma seen at the Ferguson-Droste-Ferguson Hospital, 137 underwent oophorectomy. Seven of these patients had only one ovary remaining at the time of surgery, and 10 patients had combined hysterectomy and oophorectomy at the time of resection.