Primary Tubal Cancers: A Clinicopathological Study of Twenty Cases

Primer Tuba Kanserleri: 20 Olgunun Klinikopatolojik Analizi

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ABSTRACT

Objective: Primary tubal cancers are rare malignant tumors that account for approximately less than 1% of all gynecological malignancies. We retrospectively analyzed the clinicopathological characteristics of twenty cases of primary cancers of the fallopian tube.

Material and Method: Twenty patients diagnosed as primary tubal cancer at the Pathology Department of the Istanbul Faculty of Medicine between October 1997 and December 2005 are described in our study.

Results: The patient age ranged from 43 to 74 years. Of the patients, 13 underwent surgical staging. Most of the patients were classified as stage III. The most common histological type was serous carcinoma. Only one patient had another synchronous primary gynecologic cancer. Of the 11 patients with complete prognostic data, 9 were alive for 16 to 106 months after initial surgery. In conclusion, primary cancers of the fallopian tube are similar to ovarian cancers with their pathological features and usually advanced stage - cancers with peritoneal and lymphatic spread. They can be successfully treated with the combination of cytoreductive surgery and chemotherapy.

Conclusion: We suggest that a thorough macroscopic examination of gynecological specimens by the pathologists would increase the percentage of these "rare" tumors.

Key Words: Primary cancer, Fallopian tube, Prognosis

ÖZ

Amaç: Primer tuba kanserleri, tüm jinekolojik sistem malignitelerinin %1'inden azını oluşturan nadir tümörlerdir. Bu çalışmada, anabilim dalımızda primer tuba kanseri tanısı almış, 20 olguyu retrospektif olarak inceleyerek, bu tümörlerin klinikopatolojik özelliklerini gözden geçirmeyi amaçladık.

Gereç ve Yöntem: Bu çalışmada, Ocak 1997-Aralık 2005 tarihleri arasında, anabilim dalımızda primer tuba kanseri tanısı almış, 20 olgu gözden geçirildi.

Bulgular: Hastaların yaşları 43-74 arasında değişmekteydi. 13 hastaya cerrahi evreleme operasyonu yapıldı. Olguların çoğu evre III olarak sınıflandırıldı. En sık histolojik tip seröz karsinomdu. Bir hastada eş zamanlı başka primer jinekolojik kanser mevcuttu. Tüm prognostik verilerine ulaştığımız 11 hastanın 9'unun cerrahi sonrası 16 ile 103 ay arası değişen oranda sağkalıma sahip oldukları izlendi. Sonuç olarak, primer tuba kanserleri histopatolojik özellikleri ile over karsinomlarına benzemekle birlikte, genellikle lenfatik ve peritoneal yayılımın izlendiği ileri evre tümörlerdir. Tedavi olarak sitoredüktif cerrahi ve kemoterapi uygulaması ile oldukça başarılı sonuçlar alınmaktadır.

Sonuç: Jinekolojik tümörlerde detaylı ve iyi bir makroskopik inceleme ile bu "nadir" tümörlerin sayısının artacağını düşünmekteyiz.

Anahtar Sözcükler: Primer kanser, Fallop tüpü, Prognoz

INTRODUCTION

Primary tubal cancers are rare malignant tumors that account for approximately less than 1% of all gynecological malignancies. They are similar to those of epithelial ovarian cancer with their clinical features and risk factors. The management of fallopian tube cancer is similar to that of ovarian cancer, requiring cytoreductive surgery followed by chemotherapy (1-5). In order to evaluate the clinicopathological characteristics, we retrospectively reviewed patients with primary cancer of the fallopian tube. In our study, a tumor has to fulfill some criteria to be diagnosed as a primary cancer of the fallopian tube (6). These include:

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1. Evidence of origin in the tubal mucosa, ideally in the form of intramucosal carcinoma with or without invasive disease.

2. Parenchymal involvement of the ovaries is of less magnitude than the tubes and if present is largely confined to the surface.

MATERIAL and METHODS

Twenty patients diagnosed as primary tubal cancer at Pathology Department of Istanbul Faculty of Medicine between October 1997 and December 2005 are described in our study. We reached the pathology information of these patients from the reports already present in our archives. The types of surgery and the prognostic values were taken from the medical records of the Department of Obstetrics and Gynecology and the Institute of Oncology. The histological sections of the lesions in all cases were reviewed and discussed regarding the histological type and the grade. We applied the criteria used for epithelial ovarian cancer as a grading system. Tumor staging was based on the FIGO Gynecology Committee staging classification for fallopian tube malignancy.

RESULTS

Our patients were generally in the 6th to 7th decade when they were first diagnosed with primary tubal cancer. The mean age of the population reviewed was 60.3, ranging from 43 to 74 years. A few patients were under the age of fifty. There was also a 22-year-old patient with malignant mesothelioma.

The surgical treatment in 6 cases (30%) was standard hysterectomy with salpingo-oophorectomy. In addition, 13 patients (60%) underwent omentectomy with or without pelvic/ paraaortic nodal sampling and peritoneal washing samples were obtained. The surgical treatment was only salpingectomy for the case diagnosed as malignant mesothelioma. Of the 13 patients who underwent surgical staging, twelve had abdominal involvement classified as Stage III. Of 6 patients who underwent total abdominal hysterectomy and bilateral salpingo-oophorectomy without further surgical evaluation, three presented with ovarian and paratubal infiltration (at least Stage II). Two patients were found to have lymph node metastases. Seven patients received full dose chemotherapy based on taxol and carboplatin while 2 received cisplatin and endoxan.

Histologically, ten cases were of serous type (Figure 1), three were of mixed type, and one was of pure transitional type (Figure 2). Four cases were poorly differentiated

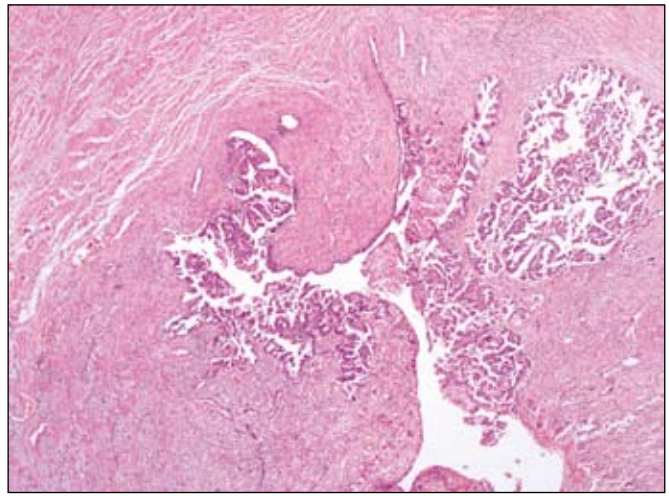

Figure 1: Serous adenocarcinoma developing from the tubal wall. (H&E, x40)

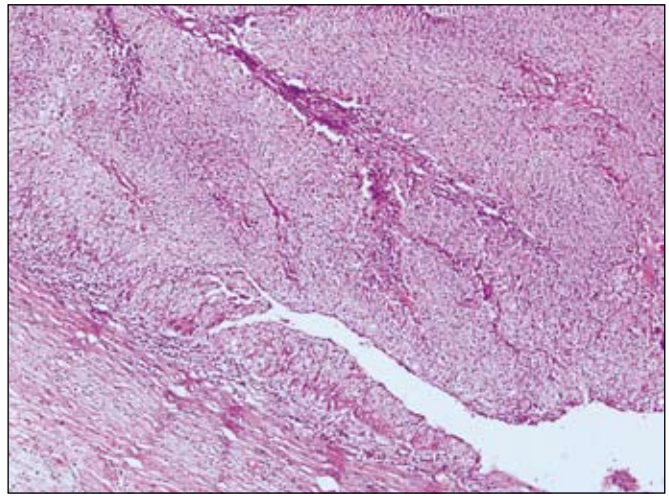

Figure 2: The general aspect of the tubal transitional cell carcinoma. (H&E, x100)

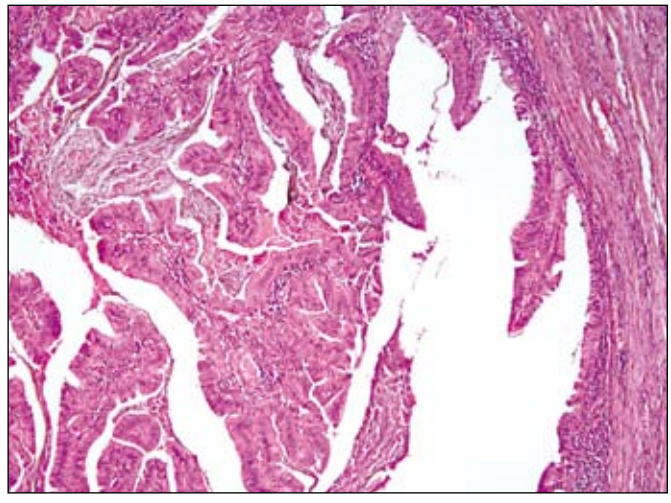

Figure 3: Endometrioid and mucinous carcinoma of the tuba. (H&E, x100)

carcinomas and two of them had preoperative chemotherapy treatment. These four cases were therefore classified as the unclassified histological type. One of the cases, which was classified as mixed-type histology, had serous, mucinous and endometrioid areas (Figure 3). The other case involved the transitional and serous-types together. Apart from these 18 cases, there was a 22-year-old patient with malignant mesothelioma limited to the tubal wall, and finally a 63-year-old patient who was classified as carcinosarcoma (Figure 4). We synchronously found another gynecological primary cancer in one case with endometrial location, which contained a gross tumor in the fallopian tube (Figure 5). An intramucosal tubal carcinoma was present in this case with an endometrial carcinoma arising from the surface epithelium at the same time.

Grading was performed in all cases except two cases that were an intraepithelial carcinoma and malignant mesothelioma. Six of the cases were Grade I, 9 were Grade II and 3 were Grade III. We could reach prognostic information for eleven patients. One of these patients died of hypertension within one year after the surgery and four had recurrences. The recurrences were at the uterine corpus, in abdomen and near gallbladder and were found to occur 6, 7, 15 and 24 months after the first observation. All of these 4 patients underwent surgery again and one of them was found to be alive 16 months after the second surgery. One patient had a second recurrence within 36 months and underwent surgery again but died of the tumor. 9 patients were still alive for 35, 41, 43, 103, 215, 106, 63, 81 and 16 months after surgery.

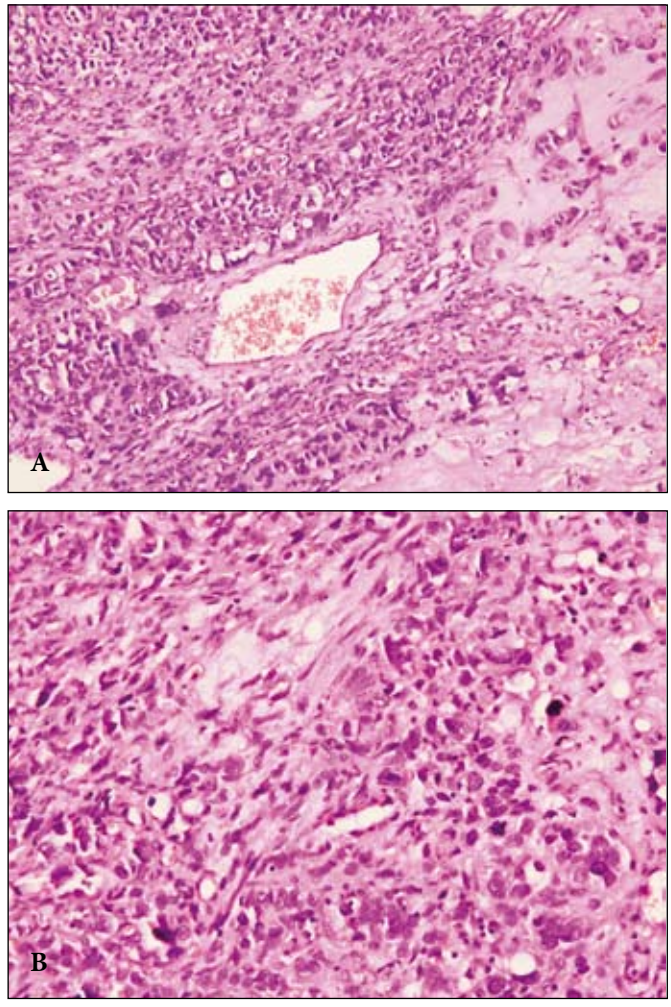

Figure 4: Carcinosarcoma of the tuba with malignant epithelial and sarcomatous components. (**A:** H&E, x200; **B:** x400)

Figure 5: The macroscopic appearance of the primary tubal carcinoma

DISCUSSION

Primary tubal cancers are very rare tumors of the female genital tract (1-5). Most reports describe small retrospective series of patients collected over a long time as in our study. The median age of the patients ranged from 53 to 69.6 in these reports. Most of the patients were in the 6th or 7th decade (7-12). In accordance with previous reports, the median age of the patients in our study was 60.15.

Tubal cancers were observed at early stages in some studies because of their early and evident typical symptoms (7, 10,13). In other studies, the patients had advanced stage (Stage III-IV) disease (8, 12). Most of the patients (60%) in our series were Stage III. Some cases had diffuse pelvic metastases and were preoperatively regarded as ovarian or primary peritoneal carcinoma. From this point of view, we may suggest that a thorough macroscopic examination and more sampling from the tubal zone, even if it appears normal, would increase the percentage of gynecological cancer cases diagnosed as primary tubal carcinoma. It has also been reported that tumor location in the fallopian tube and the status of the fimbrial end are important with regard to prognosis in early stage tubal carcinomas, necessitating the use of more detailed staging systems (14). Studies of patients

with the BRCA mutation have been of particular value and examination of prophylactic salpingo-oophorectomies will reveal an early cancer in approximately 5% of individuals, with 80% of these early carcinomas originating in the distal fallopian tube (15-18).

The most frequent histological type of primary tubal carcinoma is the serous type, and the second most frequent is the endometrioid type. Clear cell and pure mucinous-type carcinomas are less common (1-5,7,8,12, 19) and transitional cell carcinomas are more frequently encountered in the fallopian tube when compared to their ovarian counterparts (20,21). Carcinosarcomas are rarely seen in the fallopian tube (7,22,23). In accordance with the literature, we observed that serous tubal carcinomas were the most frequent histological type in our series. There was a case of mesothelioma and another case of carcinosarcoma in our study in contrast to the literature.

The differentiation of primary tubal cancers from primary peritoneal cancers is a subject of debate. Recent studies have suggested that the distal fallopian tube is the origin for ovarian or peritoneal serous carcinomas. These observations lead to the development of a proposed fallopian tube pathway to serous malignancies. Nevertheless, the classification of tubal or pelvic origin in a serous carcinoma displaying features of both extensive peritoneal involvement and tubal intraepithelial carcinoma is still controversial (24-26). The real incidence of primary carcinoma of the fallopian tube in the general population is therefore still not known. More studies are required to solve this problem. In our 5 cases with extensive peritoneal involvement, we had a similar problem in determining the primary origin of the cancer. Tubal intraepithelial carcinoma was detected in all 5 cases with a detailed macroscopic and microscopic examination and they were regarded as primary tubal carcinomas

The management of the tubal carcinoma is cytoreductive surgery and chemotherapy. The overall survival is reported to range from 30 to 50 months. Stage, lymph node status, positive peritoneal cytology, grade and clinical response to chemotherapy are known as the prognostic factors for tubal carcinomas (8,13,14). Tubal wall invasion and location at the fimbrial end are said to be the prognostic factors for early stage carcinomas. The survival and recurrence characteristics of 11 patients were like the literature in our study. Although one of our patients was classified as Stage III, she was surprisingly doing well 106 months after the initial therapy. Histopathologically, this case was a Grade I-serous carcinoma and the low histopathology grade could be the reason for the unexpectedly good prognosis for this patient.

Finally, primary tubal carcinomas diagnosed in our department were evaluated generally as serous carcinomas and high-grade tumors at an advanced stage. Preoperative and postoperative incorrect diagnoses can often be made because of the localization of these tumors. Pathologists should therefore be careful during macroscopic examination of the female genital tract specimens especially in postmenopausal women with unexplained uterine bleeding or an adnexial mass. In the same way, more samples should be taken from the tubal zone especially from the fimbrial part when no gross tumor appears in the ovaries as commonly happens after preoperative chemotherapy. We suggest that a thorough macroscopic approach would lead to an increase on the incidence of primary tubal carcinoma among gynecopathology cases.

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