

## CASE REPORT

# Preoperative Diagnosis of Fallopian Tube Carcinoma by Transvaginal Sonography and CA-125

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Primary carcinoma of the fallopian tube is rarely diagnosed preoperatively. We report the case of a 42-year-old woman with primary tubal carcinoma, which was diagnosed preoperatively on the basis of an elevated CA-125 and characteristic features on transvaginal sonography. © 1990 Academic Press, Inc.

## INTRODUCTION

Primary malignant tumors of the fallopian tube are uncommon. Adenocarcinoma, being the most frequent primary neoplasm of the fallopian tube, is responsible for approximately 0.3% of all gynecological cancers and ranks with carcinoma of the vagina as the most infrequent gynecologic malignancy [1]. A triad of profuse vaginal discharge, (the "Latzke sign"), pain, and an adnexal mass were suggested as diagnostic of this disease. Yet this triad is uncommon in most cases. Abnormal vaginal bleeding is the leading presenting complaint. An abnormal Pap smear showing malignant glandular cells is reported in patients with tubal carcinoma [2]. The preoperative diagnosis of tubal carcinoma is rarely suspected. In most cases ovarian carcinoma is the preoperative diagnosis.

The case of a young woman in whom the preoperative diagnosis of tubal carcinoma was made on the basis of abnormal CA-125 levels and a characteristic transvaginal sonographic image is described.

## CASE REPORT

B.A., a 42-year-old, gravida 0, was first seen in our outpatient clinic because of metrorrhagia of 3 months' duration. She had no previous gynecologic or general health problems. Her general physical examination was normal. Inspection of the vulva, vagina, and cervix was

unremarkable. The bimanual examination was inadequate because of semivirginal genitalia; however, right adnexal fullness was suspected. Pap smear was normal. The patient was scheduled for a fractional curettage. Under general anesthesia a slightly enlarged uterus and a right semisolid irregular but mobile mass, 6 cm in diameter, were palpated. There was no pathology in the specimens obtained from the cervical canal and uterus. Transvaginal sonography (TVS), using a 7.5-mHz transducer, demonstrated a  $5 \times 6 \times 4$ -cm multilocular mass with a cogwheel-like appearance and a polypoid tissue growing from the inner surface, suggesting a primary fallopian tube pathology [3]. The serum CA-125 level was 140 U/ml and, when repeated a few days later, 164 U/ml. Because of these findings she was prepared for surgery. On explorative laparotomy the only pathology was in the right fallopian tube area. It was enlarged, tortuous and created a  $4 \times 5 \times 3$ -cm mass (Fig. 1). Both ovaries were normal. Frozen section from the right fallopian tube showed adenocarcinoma with normal right ovary. Hysterectomy, bilateral salpingo-oophorectomy, appendectomy, partial omentectomy, diaphragmatic biopsy, and paraaortic and pelvic lymph node sampling were carried out. Histologic evaluation of these specimens showed no metastases beyond the right tube. The postoperative recovery was uneventful. Serum assay of CA-125 few days after surgery indicated a level of 5 U/ml.

## DISCUSSION

The incidence of primary carcinoma of the fallopian tube ranges from 1 in 3,500 to 1 in 15,000 gynecologic admissions. It accounts for 1.1% of gynecologic malignancies [4]. The rarity of this disease explains some of

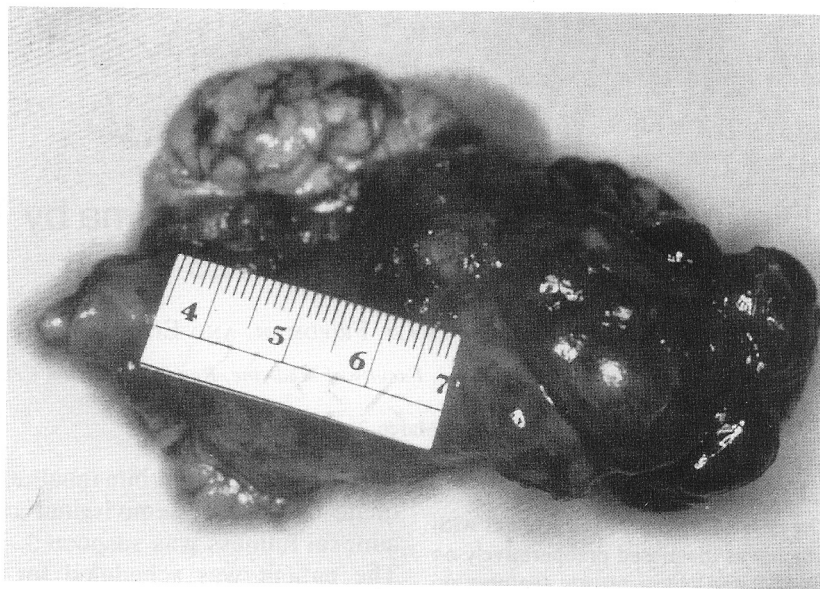


FIG. 1. Right adnexa. A normal ovary and a semicystic tubal tumor with intact serosal surface are observed.

the difficulty in making the correct preoperative diagnosis. Sedlis reviewed 232 cases of tubal carcinoma [5]. Only in 6 patients (2.5%) was a correct preoperative diagnosis made. Early symptoms of the disease may be of such trivial nature as lower abdominal discomfort or vaginal bleeding and discharge. Because most patients are elderly, postmenopausal bleeding is a common symptom of tubal carcinoma. It is reported by more than 50% of these patients. In a patient with abnormal bleeding, an adnexal mass, and normal histologic evaluation of the cervix and uterus, the diagnosis of tubal carcinoma should be suspected. In few cases the preoperative diagnosis may be suggested by an abnormal Pap smear showing malignant glandular cells.

Until recently, pelvic sonography had made limited contributions to the diagnostic workup of pelvic masses [6]. The introduction of high-frequency vaginal transducers has improved pelvic sonographic imaging considerably. Over a short period, TVS has become an important diagnostic tool for both gynecologic and early pregnancy pathologies [7]. The vicinity of the vaginal transducer to the pelvic organs enables accurate assessment of pelvic masses, their shape, size, and internal structure, as well as their adherence to adjacent organs [8]. The normal fallopian tube is better visualized when blood, ascites, or inflammatory fluids create the necessary fluid-tissue interface around it. The abnormal tube is easily identified even if no contrasting pelvic fluid is present [3]. The various pathologies of the fallopian tube which can be demonstrated by TVS include infectious processes, tubo-ovarian abscesses, and tubal pregnancy. Timor-Tritsch and Rottem predicted that tubal malig-

nancy could be diagnosed by TVS [3]. The present report affirms this prediction.

CA-125 is an antigen produced by epithelial ovarian tumors as well as by other celomic epithelial neoplasms [9–11]. CA-125 is useful in discriminating malignant from benign pelvic masses [12]. Serum levels in excess of 65 U/ml suggest the existence of malignant tumor with a specificity of 98% and sensitivity of 75%. In addition to the ovarian epithelium, also the fallopian tube epithelium, the endometrium, and the endocervix produce this antigen [11]. Therefore it is quite conceivable that the preoperative diagnosis of tubal carcinoma could be assisted by this test. However, only one case is briefly mentioned in the literature [11]. In the present case both TVS and abnormal levels of CA-125 assisted in the accurate preoperative diagnosis of tubal carcinoma and justified surgical intervention in a young, otherwise healthy, woman without delay.

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