

ENDOMETRIAL CANCER SUMMARY

Endometrial cancer is the most common gynecologic malignancy diagnosed in the United States, accounting for nearly 50% of all gynecologic malignancies. According to American Cancer Society estimates, there will be approximately 39,080 new cases diagnosed, and 7,400 deaths from endometrial cancer in 2007. The incidence of endometrial cancer has been decreasing by approximately 1% per annum since 1998, after steadily increasing over the previous decade.

The risk factors for endometrioid endometrial adenocarcinoma (the most common histological subtype, also known as Type I) are related to prolonged over-exposure to endogenous or exogenous estrogen stimulation. The risk factors include unopposed estrogen administration, obesity, nulliparity, anovulation, Type II diabetes, early menarche, late menopause, estrogen-producing ovarian tumors, and polycystic ovary syndrome. Women with a genetic predisposition for hereditary non-polyposis colon cancer (Lynch II syndrome) have an extremely high risk of developing endometrial cancer. Similarly, women taking tamoxifen have a 2- to 4-fold increase in the risk of developing endometrial cancer. The use of oral contraceptives and pregnancy decrease the risk of developing endometrial cancer. Similarly, smoking appears to decrease the risk, although it cannot be recommended as a preventative method.

The other histological subtypes (also known as Type II endometrial cancers) include clear cell, serous, and malignant mixed müllerian tumors (also known as carcinosarcoma). These subtypes do not appear to be related to overexposure to estrogen, frequently have genetic mutations, are highly aggressive, and account for the majority of deaths due to endometrial cancer. Fortunately, they are much less common than endometrioid endometrial adenocarcinoma.

The majority of women diagnosed with endometrial cancer are menopausal. Endometrial cancer is most frequently diagnosed in the fifth (50s) and sixth (60s) decades of life. However, the incidence appears to be increasing in younger women (less than 35 years old). Most of these younger women have early-stage, low-grade cancers and better survival than older women with comparable stage and histologic grade.

Most women diagnosed with endometrial cancer have early-stage disease. The frequency of early diagnosis is primarily due to the occurrence of abnormal uterine bleeding, leading to endometrial tissue sampling. In general, abnormal uterine bleeding should be considered endometrial cancer until proven otherwise. Screening for endometrial cancer by endometrial sampling or transvaginal ultrasound is not effective or recommended except in selected high-risk populations (e.g., women with hereditary

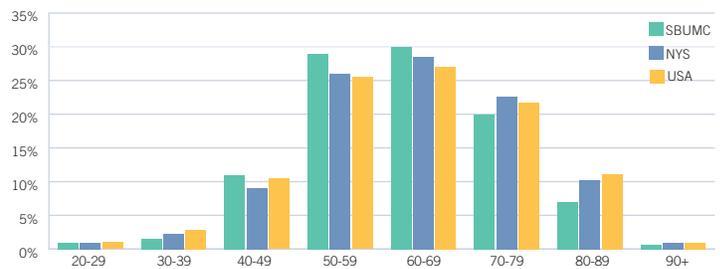
non-polyposis colon cancer trait unwilling to undergo hysterectomy). The distribution of the patients treated at Stony Brook is comparable to the National Cancer Data Base national and New York State groups with regards to age, grade, and histology.

The appropriate surgical management for women with endometrial cancer is total hysterectomy, bilateral

salpingo-oophorectomy, and pelvic and para-aortic lymph node evaluation. The results of the LAP-2 study from the Gynecologic Oncology Group suggest that the outcomes for abdominal and laparoscopic-assisted approaches are comparable. Unfortunately, only 35% of women with endometrial cancer nationally undergo lymph node evaluation according to the Patient Care Evaluation Study. When patients

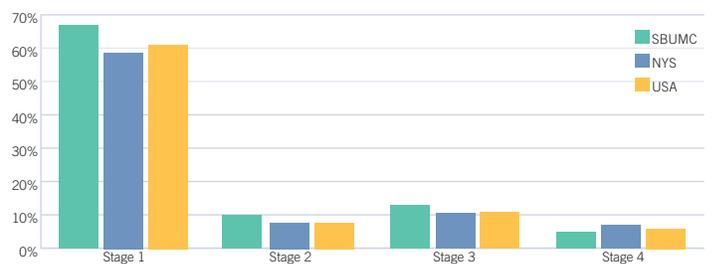
AGE AT DIAGNOSIS Endometrial Cancer

Comparing 535 SBUMC Cases 2002-2006 vs. 9,544 Cases in NCDB as Reported by 65 Hospitals in NY State, and 142,465 Cases in NCDB as Reported by 1,343 Hospitals in USA, 2000-2004



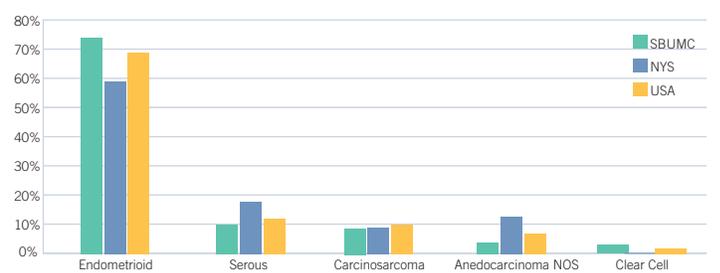
TNM STAGE AT DIAGNOSIS Endometrial Cancer

Comparing SBUMC 2002-2006 vs. NCDB NYS and USA Benchmark Data, 2000-2004



HISTOLOGIC TYPE Endometrial Cancer

Malignant Endometrial Tumors at SBUMC vs. NCDB NYS and USA Benchmark Data



are cared for by gynecologic oncologists, the lymph node evaluation rate rises to between 63 and 87%, depending upon clinical criteria. At Stony Brook, the lymph node assessment rate was 71%.

After surgical-pathologic staging, most patients with endometrial cancer are found to have disease confined to the uterus (Stage I). The most important prognostic factor in endometrial cancer is

stage, and the expected five-year survival rates of patients with endometrial cancer are 87% for stage I and 76% for stage II. Unfortunately, stage for stage, the survival is similar to that of ovarian cancer, with stage III/IV disease having approximately a 30% five-year survival. The overall five-year survival for patients treated at Stony Brook is comparable to the National Cancer Data Base national and New York State groups.

Most patients with stage I and II disease are cured after surgery, while certain subsets of patients are at higher risk for local-regional and distant relapse. Overall, the risk of local-regional failure after surgery with no adjuvant therapy in stage I and II disease ranges from minimal to up to 20% and is influenced by histologic grade and type, degree of myometrial invasion, and the presence of lymphovascular space invasion.

Adjuvant therapy recommendations are based upon pathologic findings. In general, local-regional failure is the greatest risk for the majority of patients with uterine-confined Type I endometrial cancer, and adjuvant therapies are directed towards reducing this risk. Patients with Type II cancers or extra-uterine disease have a high risk for distant failure, leading to the consideration of systemic therapy.

Adjuvant radiotherapy options include whole-pelvic radiation, vaginal brachytherapy, whole-abdomen radiation, and intraperitoneal radionuclide treatment. Radiotherapy decreases local recurrence rates in both uterine-confined and extra-uterine disease, but a significant impact on overall survival has not been demonstrated. Consequently, the role of adjuvant radiation therapy for women with uterine-confined or extra-uterine disease remains controversial. At Stony Brook, the members of the Gynecologic Oncology Disease Management

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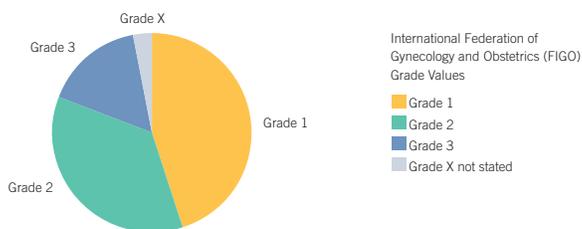
Team closely collaborate to define the optimal adjuvant therapy for each individual patient.

Conventionally, systemic therapy including hormone therapy or chemotherapy was used in the treatment of advanced disease and in the palliative setting. At Stony Brook, as well as at many other institutions, the current trends are to offer systemic therapy earlier in the course of disease to patients with poor prognostic factors and to consider the role of targeted therapies in advanced disease.

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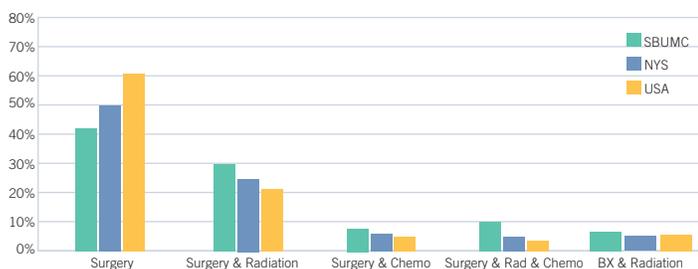
HISTOLOGIC GRADE Endometrial Cancer

Endometrioid Adenocarcinoma 394 SBUMC Cases, 2002-2006



TREATMENT MODALITIES Endometrial Cancer

Comparing SBUMC 2002-2006 vs. NCDB NYS and USA Benchmark Data, 2000-2004



5-YEAR SURVIVAL Endometrial Cancer

Comparing 175 SBUMC Cases 1998-1999 vs. 2,025 NYS Cases and 49,575 USA Cases in NCDB, 1998-1999

