

Cervical Cancer (PDQ®): Treatment


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General Information

Note: Separate PDQ summaries on [Screening for Cervical Cancer](#) and [Prevention of Cervical Cancer](#) also available. Information on cervical cancer in children is available in the PDQ summary on [Cancers of Childhood](#).

Note: Estimated new cases and deaths from cervical (uterine cervix) cancer in the United States

- New cases: 11,150.
- Deaths: 3,670.

The prognosis for patients with cervical cancer is markedly affected by the extent of disease at diagnosis. Because a vast majority (>90%) of these cases can and should be detected early with use of the Pap smear,[2] the current death rate is far higher than it should be and reflects that many Pap smears are not done on approximately 33% of eligible women.

Among the major factors that influence prognosis are stage, volume and grade of tumor, histologic type, lymphatic spread, and vascular invasion. In a large surgicopathologic staging study of patients with stage IB disease reported by the Gynecologic Oncology Group (GOG), the factors that predicted prognosis most prominently for lymph node metastases and a decrease in disease-free survival were capsular space involvement by tumor, increasing tumor size, and increasing depth of stromal invasion. In a study of 1,028 patients treated with radical hysterectomy, survival rates correlated more consistently with tumor volume (as determined by precise volume measurement) than clinical or histologic stage.[5]

A multivariate analysis of prognostic variables in 626 patients with locally advanced disease (stages II, III, and IV) studied by the GOG revealed that periaortic and pelvic lymph node status, patient age, and performance status were significant for progression-free interval and survival. This confirms the overriding importance of positive periaortic nodes and suggests further evaluation of pelvic nodes in locally advanced cervical cancer. The status of the pelvic nodes was important only if periaortic nodes were negative. This was also true for tumor size.

Bilateral disease and clinical stage were also significant for survival.[6] In a large series of patients treated by radiation therapy, the incidence of distant metastases (most frequently to the lung, abdominal cavity, liver, and gastrointestinal tract) was shown to increase as the stage of disease advanced from 3% in stage IA to 75% in stage IVA. A multivariate analysis of factors influencing the incidence of distant metastases showed stage, endometrial extension of tumor, and pelvic tumor control indicators of distant dissemination.[7]

Whether adenocarcinoma of the cervix carries a significantly worse prognosis than squamous carcinoma of the cervix remains controversial.[8] Reports conflict about the effect of adenocarcinoma type on outcome.[9,10] One report showed that approximately 25% of apparent squamous carcinomas with demonstrable mucin production and behave more aggressively than their pure squamous counterparts, suggesting that any adenomatous

ifferentiation may confer a negative prognosis.[11] The survival is mainly the result of more advanced stage and nodal involvement rather than cell independent variable. Women with human immunodeficiency virus have more aggressive disease and a poorer prognosis.[12] A study of patients with known invasive squamous carcinoma of the cervix found that overexpression of the *C-myc* oncogene was associated with a poorer prognosis.

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