

## Women with previous abnormal cervical cells at higher risk for recurrence and invasive cancer

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New research from the UC Davis Center for Healthcare Policy and Research has found that women who have been treated for cervical intraepithelial neoplasia (abnormal cervical cell growth), are at higher risk for a recurrence of the disease or invasive cervical cancer. The large, population-based study, which appears in the May 12 online issue of the *Journal of the National Cancer Institute*, sheds new light on the long-term risks of subsequent abnormal cell growth or invasive cancer, and should help in the development of follow-up treatment guidelines for women with a history of treatment for abnormal cells.

"We now have a much more clear idea of the risks of recurrent abnormal cells and invasive cervical cancer over time after treatment of these cells," said Joy Melnikow, Professor of Family and Community Medicine and Associate Director of the UC Davis Center for Healthcare Policy and Research, who led the study. "Recurrence risk depends on the grade of abnormal cells that was initially treated, what treatment was used and the woman's age."

In the study, which used data from the British Columbia Cancer Agency cytology database and was funded by a grant from the National Cancer Institute, Melnikow and colleagues identified 37,142 women who were treated for abnormal cells from Jan. 1, 1986 through Dec. 31, 2000. They compared them with a group of 71,213 women with no previous diagnosis of abnormal cells. Both groups were under active surveillance



through 2004.

They found that risk of subsequent abnormal cells or cervical cancer was associated with the type of treatment they received, their age and the initial grade of diagnosis. There are three levels of abnormal cervical cells; grade 3 is the most severe. There is no standard treatment for abnormal cells; at early stages, abnormal cells are monitored to determine if they resolve without treatment. At later stages, the type of treatment depends on several variables, including the grade and distribution of the abnormal cells and whether the patient has been treated previously.

According to the study, the risk of invasive cervical cancer and recurrence of grade 2 or grade 3 abnormal cells was highest for women who were older than 40, previously treated for grade 3, or treated with cryotherapy, a common treatment method in which the abnormal cells are frozen to stop their growth. Rates of recurrence at grades 2 and 3 were lowest among women treated with cone biopsy, a method in which the abnormal cells are removed surgically.

Melnikow said the findings could help guide physicians in making recommendations about the intensity of follow up needed after treatment for abnormal cells. In addition, she said the findings may help physicians and patients in deciding which type of treatment for abnormal cells to choose. She explained, for example, that while cryotherapy was associated in the study with a higher risk of recurrence, it carries less risk of other harmful effects than cone biopsy or loop electrical excision, procedures which have been associated with pre-term delivery in women who later become pregnant. This suggests that a younger woman with grade 2 abnormal cells who plans to start a family might opt for cryotherapy, while an older woman with grade 3 abnormal cells who is at greater risk for recurrence might opt for loop excision or cone biopsy.



"These data may help inform that treatment discussion, because we know more about how age and different treatments appear to influence risks," Melnikow said.

The study also found that the highest rates of recurrence of abnormal cells were observed in the first six years after treatment; the majority of those were identified in the first two years. Recurrence rates for grade 2 or grade 3 abnormal cells during the 6-year period ranged from 2.3 percent in the lowest risk group to 35 percent in the highest risk group. Overall incidence of cervical cancer in the abnormal cell group was 37 cervical cancers per 100,000 woman-years, compared with six cervical cancers per 100,000 woman-years among women not previously diagnosed.

Melnikow pointed out that the study also has different implications for health policy depending on the health system and resources. In developing countries where cervical cancer screening and treatment are more limited and death rates higher for <u>cervical cancer</u>, cryotherapy, a simpler and less expensive treatment method for <u>abnormal cells</u>, is likely to be preferred.

Melnikow said the next step is to compare different treatment and surveillance strategies in terms of cost-effectiveness.

## More information:

Article: Melnikow et al. Cervical Intraepithelial Neoplasia Outcomes After Treatment: Long-Term Follow-up From the British Columbia Cohort Study. J Natl Cancer Inst 2009, 101: 721-728.

Editorial: Wilkinson E. Women with Cervical Intraepithelial Neoplasia: Requirement for Active Long-Term Surveillance After Therapy, J Natl Cancer Inst 2009, 101: 696-697.



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