

Radiotherapy for DCIS still protects against recurrence after 15 years

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Radiotherapy treatment (RT) after surgery for ductal carcinoma in situ (DCIS) still has a major protective effect against recurrence more than 15 years later, according to the results of an international trial.

Researchers found that the use of RT in addition to surgery could reduce the chances of a local recurrence (the cancer coming back in the same breast) by 50%. Results from the trial, which has one of the longest follow-ups of a large group of patients in the world to date, will be reported today to the 8th European Breast Cancer Conference (EBCC-8).

Dr. Mila Donker, a research physician from the Netherlands Cancer Institute, Antoni van Leeuwenhoek Hospital, Amsterdam, The Netherlands, worked with colleagues from thirteen other countries under the auspices of the European Organisation for the Research and [Treatment of Cancer](#) (EORTC), based in Brussels, Belgium. They analysed the 15-year follow-up of more than 1000 DCIS [patients](#), 50% of whom had received RT after total surgical excision of a tumour of less than 5cm diameter and 50% who had not. When radiotherapy had not been given, almost one in three women had developed a local [recurrence](#), while the 50% risk reduction in those patients who had had RT held true for both an in-situ and an invasive [cancer recurrence](#), where the cancer had spread outside the duct.

The 15-year cumulative incidence for DCIS recurrence in the surgery group was 14.9%, as opposed to 7.5% in those patients in the combined group (surgery plus radiotherapy), and for an invasive recurrence the

rates were 15.5% (surgery only) and 9.8% (combined). Although no survival difference was seen between the surgery alone and the surgery plus RT group, women who had an invasive recurrence had a significantly worse survival compared with those who had a DCIS recurrence or no recurrence at all.

"We found that the majority of the DCIS recurrences occurred within five years of treatment, and that RT seemed to have a continuous protective effect on DCIS recurrence in the long term," says Dr. Donker. "However, the [protective effect](#) of radiotherapy on the onset of invasive recurrence seemed to be observed mainly in the first five years after treatment, while the risk of developing a recurrence was more or less continuous over the years."

The number of DCIS cases has increased in the past few decades, and it now accounts for about 25% of all new breast cancer diagnoses. Until the introduction of routine screening it was often overlooked and not diagnosed until it had developed into invasive breast cancer. Because most breast cancers start in the cells that line the ducts and lobules of the breast, the diagnosis of DCIS is an important indication of a woman's risk of developing an [invasive cancer](#).

Detecting an in situ lesion of the breast enables the patient to be treated at an early stage, but it also poses the problem of 'over-treatment' for a lesion that would not have developed into a life-threatening cancer.

"That is why it is so important to be able to study the biological behaviour and the malignant potential of these in situ breast cancers in long follow-up trials. Our study provides convincing evidence that early treatment does work, and that it can help to avoid the more severe therapies that might be needed at a later stage," Dr. Donker will say.

"We now intend to analyse prognosis and treatment after recurrence in these patients. We now know that patients who do not receive RT have a

higher risk of a local recurrence, but we will have a lot to learn about prognosis and treatment at a later stage. We intend to analyse the data to look at, for example, whether patients who received RT during the initial treatment have a higher risk of having to undergo a mastectomy after a local recurrence," Dr. Donker will say.

The researchers believe that their findings will allow them to better select patients who will benefit from particular treatments and avoid over and under treatment of patients with DCIS. "For example, in the future we will be able to identify patients who will not benefit from RT and spare them a treatment that might induce other tumours later in life. Or we could identify patients who need a more aggressive therapy than only local excision and RT – patients with a high chance of recurrence might benefit from an initial mastectomy, for example. We are hoping that by learning more about the differences in outcome for these patients we will be able to make detailed recommendations for the best treatment to use if the cancer recurs, and hence be able to decrease yet further the local recurrence rate of DCIS patients in the future," Dr. Donker will conclude.

Professor David Cameron, from the University of Edinburgh (Edinburgh, UK) and chair of EBCC-8 said: "This is an important long-term follow-up study. DCIS is a much more common diagnosis now than when this trial was run, so that there are many patients whose care might be influenced by these data. These data also reiterate the importance of long-term follow-up in [breast cancer](#), as patients can, sadly, develop a recurrence of their cancer many years after their initial treatment."

Provided by ECCO-the European CanCer Organisation

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