New treatment increases life expectancy of cervical cancer patients

A new treatment developed by Danish scientists allows cervical cancer patients to live longer and suffer fewer side-effects. The new treatment is now being rolled out to the rest of the world.

“We now have a much more precise knowledge about the dose of radiotherapy needed to control the cancer and how much the healthy tissue can tolerate,” says Jacob Christian Lindegaard, a clinical associate professor in the Department of Oncology, Aarhus University.

“Survival rates of women suffering from cervical cancer have increased by around 10 per cent, and the risk of severe side-effects has more than halved,” he says.

Lindegaard and his colleagues have described their results in ten scientific articles as part of a special issue of the journal Radiotherapy and Oncology.

The gold standard in cervical cancer treatment

The treatment protocols developed in Aarhus are now being rolled out across Europe, USA, and Canada. The hospitals will record the results in a joint database.

Scientists at Aarhus University hold courses to train other scientists in the new cervical cancer treatments. More than 100 physicians and doctors from around the world have taken part so far, in order to improve cervical cancer treatment in their countries.

“These methods have become the gold standard for cervical cancer treatment, and we’re lucky to have been part of it from the start, which means that Aarhus University Hospital is now a leader in this field,” says Lindegaard.

Read More: Is immunotherapy really a revolution?

New treatment protocols rolled out to the rest of Denmark

The rest of Denmark has also been inspired by the work. At Rigshospitalet and Herlev Hospital in Copenhagen, Dr Trine Juhler-Nøttrup is busy implementing the new techniques the hospitals’ respective oncology departments.

“The rest of Denmark has been inspired by the way Aarhus has entered an international partnership to improve this type of cancer treatment. It’s really important work that all of us now want to take part in,” says Juhler-Nøttrup.
She expects that survival rates of cervical cancer patients will increase across the country as a result, while the risk of severe side effects from the treatment will fall.

“There’s a great chance of recovery with few side-effects, which there used to be quite a few of. Another crucial aspect here is that patients all across the country will now receive the same high-standard treatment,” says Juhler-Nøttrup.

Read More: Scientists find new mechanism to explain development of cancer[9]

Improved internal radiation therapy

The new treatment uses MR-scans to precisely locate the tumour and then internal radiotherapy to treat the cervical cancer. This has fewer side effects than the traditional treatment by external radiotherapy and chemotherapy, says Lindegaard.

The method works by inserting tubes into the body to move sources of radioactivity through the tubing. Doctors can control where the radioactive source goes and for how long with great precision.

They can adjust the radiation exposure for certain areas of the tumour and strike the tumour as hard as possible with minimal damage to the surrounding areas.

“One of the big advantages with the new type of treatment is that we don’t hit as much tissue to the same degree [as other treatments]—just the cancer tumour,” says Lindegaard.

“By using the MR-scanner we achieve a precision that we didn’t have in the old days. And when we compare our data with historical data, we can see that there’s a much higher degree of local control. This has brought the average survival rate for women with locally advanced cervical cancer up to nearly 70 per cent, which is a big improvement,” says Lindegaard.

Read More: Unveiling mutations behind cervical cancer[10]

International partnership brings improved treatment to the rest of the world

The development of the new treatment protocols began almost ten years ago as an international collaboration where scientists reported their protocols into a joint database called EMBRACE.

Over the years, doctors and research scientists started to identify the successful treatments. They improved their understanding of exactly how much radiation was needed and how to localise it using the MR-scans.

But there is still room for improvement, says Lindegaard.

“While we’ve made progress with scans and the internal radiation, we still need to improve external radiotherapy and chemotherapy. That’s where we need to improve in the future, which will increase the chances of surviving this kind of cancer,” he says.

The next stage of the project, EMBRACE II, will recruit 1,000 patients over the next four years and follow up with the patients in five years’ time.

---------------

Read the Danish version of this article on Videnskab.dk [11]


Can reduction of uncertainties in cervix cancer brachytherapy potentially improve clinical outcome?, Radiotherapy and Oncology, Doi: 10.1016/j.radonc.2016.06.008 [21]  
A volumetric analysis of GTVD and CTVHR as defined by the GEC ESTRO recommendations in FIGO stage IIB and IIIB cervical cancer patients treated with IGABT in a prospective multicentric trial (EMBRACE), Radiotherapy and Oncology, doi: 10.1016/j.radonc.2016.06.006 [23]  
Multicentre evaluation of a novel vaginal dose reporting method in 153 cervical cancer patients, Radiotherapy and Oncology, Doi: 10.1016/j.radonc.2016.05.002 [24]  
Image guided brachytherapy in locally advanced cervical cancer: Improved pelvic control and survival in RetroEMBRACE, a multicenter cohort study, Radiology and Oncology, Doi: 10.1016/j.radonc.2016.03.011 [25]  
Image guided adaptive brachytherapy with combined intracavitary and interstitial technique improves the therapeutic ratio in locally advanced cervical cancer: Analysis from the retroEMBRACE study, Radiology and Oncology, doi: 10.1016/j.radonc.2016.03.020 [26]  
Effect of tumor dose, volume and overall treatment time on local control after radiochemotherapy including MRI guided brachytherapy of locally advanced cervical cancer, Radiology and Oncology, doi: 10.1016/j.radonc.2016.05.014 [27]  
Vaginal dose de-escalation in image guided adaptive brachytherapy for locally advanced cervical cancer, Radiology and Oncology, doi: 10.1016/j.radonc.2016.05.020 [28]  

Kristian Sjøgren [29]  
Catherine Jex

November 29, 2016 - 06:25  
This field is not in use. The footer is displayed in the mini panel called "Footer (mini panel)"


Links:  