

Cervical early detection

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New technique detects early cervical cancer

The Institute of Cancer Research and The Royal Marsden Hospital have developed a new imaging technique which locates previously undetectable early stage cervical cancers, according to research published in Radiology today (October 21). The pilot study, funded by Cancer Research UK, found the new imaging technology identified small tumours, reducing the need for radical surgery which could lead to infertility.

Lead researcher Professor Nandita deSouza from The Institute of Cancer Research said the study was extremely optimistic. "As cervical cancers are usually identified at a very early stage through screening, our imaging technology can localise them and determine the size of the tumour. We can use this information to plan less radical surgery, preserving as much of the uterus and the cervix as possible," she said. "With conventional scanning techniques, small tumours are harder to identify or to differentiate from scar tissue, particularly if the patient has had a recent biopsy. In these cases, conventional imaging can overestimate the level of cancer within the cervix and result in major surgery leading to infertility."

"The quality of the information from the images produced using this new method has allowed us to identify and define smaller tumours more accurately, helping us to make decisions on surgery. "Advancements in scanning and screening techniques for cervical cancer are vital in treatment planning to reduce the number of women who require hysterectomies for cancer treatment."

The pilot study focussed on 59 women between the ages of 24 and 83 over a period of 22 months. Prof deSouza said one of the major successes of this work was the exploitation of the diffusion of water around cells in cancer tissue to produce the image, a technique called "diffusion weighted imaging". This significantly improves the level of contrast between developing tumours and the surrounding tissues. The new imaging technique involved the use of a vaginal probe to capture images of the cervix which created a much higher image resolution compared to a traditional external pelvic scan. Encouragingly, researchers found that 88 per cent of tumours could be detected using an internal probe and diffusion-weighted imaging compared with only 77 per cent of the same tumours found using the existing external technique.

Dr Lesley Walker, director of cancer information at Cancer Research UK, which funded the study, said: "This small study is extremely promising and provides a clear rationale for more extensive studies. Cancer Research UK has identified imaging research as a priority and we have invested £50 million over five years, in partnership with other funding bodies, to help us achieve our aim of improving the detection and diagnosis of cancer through this exciting field of cancer research."

Around 2,700 women are diagnosed each year in the UK making it the second most common cancer in women under 35. Approximately 1,000 women die from cervical cancer in the UK every year. About 4.4 million women are invited for cervical cancer screening each year in England between the ages of 25 and 60.