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Lung cancer patients whose tumor has spread to the brain could be spared radiotherapy

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Patients with non-small cell lung cancer which has spread to the brain could be spared whole brain radiotherapy as it makes little or no difference to how long they survive and their quality of life, according to a Cancer Research UK-funded clinical trial published today (Sunday) in *The Lancet*.

Around 45,500 people are diagnosed with lung cancer in the UK every year and an estimated 85 per cent of cases are non-small cell lung cancer. Up to 30 per cent of patients with non-small cell lung cancer have the disease spread to the brain.

Typically these patients are given steroids and supportive care, such as painkillers, to control their cancer symptoms, but may also be offered whole brain radiotherapy daily for one to two weeks to improve symptoms. Before this trial, doctors had little evidence to prove whether giving these patients whole brain radiotherapy benefitted them.

Because whole brain radiotherapy can cause side effects and involves daily visits to the hospital, the QUARTZ trial looked at whether it improves how long patients survived for and its effect on quality of life.

The trial, led by researchers from the MRC Clinical Trials Unit at UCL, studied 538 patients from the UK and Australia. Half of the patients had whole brain radiotherapy and the other half did not, all the patients

received steroids and supportive care.

The trial found no clear difference in survival and quality of life between the patients who did and didn't receive whole brain radiotherapy.

The patients who had whole brain radiotherapy lived for around five days longer (9.2 weeks after entering the trial compared with 8.5 weeks for those who didn't receive radiotherapy), and reported around five more days of good quality life. These small differences could be down to chance and suggest that whole brain radiotherapy doesn't increase survival or quality of life. This means that patients could be spared the extra radiotherapy treatment.

While research has doubled cancer survival rates, progress has not been the same across all cancer types and survival remains low for people with lung cancer. To help tackle this Cancer Research UK increased investment in this cancer in its research strategy in 2014.

Dr Paula Mulvenna, the clinical chief investigator from the Northern Centre for Cancer Care in Newcastle, said: "This trial is changing treatment for patients. Before the QUARTZ trial clinicians weren't certain that giving whole brain radiotherapy enhanced our patients' quality of life, but did frequently offer it in good faith. These results confirm we can safely omit this treatment and concentrate on other ways of ensuring our patients and their families receive the best end of life care."

Professor Ruth Langley, from the MRC Clinical Trials Unit at UCL, said: "We're extremely grateful to the patients, carers and clinicians who took part in this challenging trial and helped us identify this important information that could improve the final days for many patients around the world."

Martin Ledwick, Cancer Research UK's head information nurse, said: "These trial results could help patients with limited time choose how they spend the end of their lives. For many people spending time at home with family and friends is their priority so knowing that they can do this rather than going backwards and forwards to hospital could be their preference."

More information: Mulvenna et al. Can whole brain radiotherapy be omitted from the treatment of non small cell lung cancer patients with brain metastases not amenable to stereotactic radiotherapy or surgery? Results from the UK Medical Research Council QUARTZ randomised clinical trial. *The Lancet*. 2016.

Provided by Cancer Research UK