Is this the way forward for cancer treatment?

The latest way to kill tumours sounds like something straight out of Star Trek and early trials have produced some exciting results, reports ADRIAN LEE

WHEN doctors told Lynne Newman that she had kidney cancer, she wondered what more life could throw at her.

For 15 years she had battled against severe ulcerative colitis, which eventually resulted in the removal of her colon and most of her bowel. She spent six months in hospital, endured seven operations in the space of 10 days and was left unable to eat solid food for a year.

At one time, her only way of surviving was to have liquid nutrients pumped into her body through a line into her chest.

But three years ago, just as she appeared to be winning the struggle, a routine scan dealt a hammer blow: a slow-growing tumour had been found on her kidney.

"It was just something else to knock me down," says Lynne, 49, a former care assistant from Aylesbury in Buckinghamshire.

"Initially, they weren't too worried because it wasn't particularly big. It didn't cause me any pain and, to be honest, I was more concerned about all my other problems. Not being able to eat was horrendous. You only realise then how much of life and socialising revolves around food. For the first two months, I cried every day."

As doctors monitored the tumour they decided, last year, that it should be treated. But Lynne's medical history made surgery difficult.

She says: "It wasn't out of the question but there was a lot of scar tissue and I had gone through so many other operations that I couldn't face yet another. My stomach was such a mess."

Then Lynne was told about a trial of a new treatment called high intensity focused ultrasound (HIFU) at the Churchill Hospital in Oxford.

For many years scientists have believed that intense beams of soundwaves could hold the key to treating many forms of cancer without the need for surgery.

Only recently have they been able to focus the heat-creating beams to target tumours without damaging surrounding tissue. One form of the bone, pancreatic and, possibly, breast. It has many advantages over conventional techniques: no surgery is involved, so infection risks are reduced and recovery time is shortened, and it does not have the same side effects as radiotherapy, which can affect nearby tissue. A major benefit is that HIFU treatment can be used repeatedly on the same patient.

"I'd never heard of this treatment," says Lynne. "I was given a leaflet and told it was only available in China. I was given a trial run and got to meet one of the professors from China who was over here with his technicians.

"There was an element that I was a guinea pig but everyone was very positive and I really couldn't bear the thought of surgery."

In August last year, Lynne was given four hours of HIFU treatment, using heat to kill the cancer cells.

"I was able to go home the next day," she says. "I woke up next morning without any pain and there wasn't a mark on my skin."

Follow-up scans have shown that the tumour has almost been destroyed.

"They will keep an eye on me and, if it begins growing, I will have more HIFU treatment," says Lynne. "I feel quite privileged to have taken part in this trial and I hope that in some small way I'm helping to advance medicine."

At best, HIFU could make even keyhole surgery outdated. Patients lie over a small bath of water containing two ultrasound transducers.

One gives a low-power diagnostic beam allowing the doctor to see the tumour and guide the treatment; the other produces a high-power beam, heating the tumour cells to temperatures of up to 90C.

During the HIFU treatment, soundwaves pass through the skin and internal tissues.

David Cranston, a consultant in urology at the Churchill Hospital, says: "It allows us to focus very specifically on the tumour. We don't make any cuts on the body.

"It is like using a magnifying glass in the sun to burn a leaf. You can pass your hand through the beam and your skin is standard treatment for kidney cancer, and many other forms of cancer."

In China, where HIFU is becoming standard, some 8,000 cancer patients have been treated. Results there have been excellent but testing standards are not as rigorous as in the UK.

One surprising bonus is that the treatment also appears to stimulate the body's natural defences against further tumours, although Mr Cranston and his team remain cautious about this claim until more trials have been completed.

The treatment will be available privately in Oxford, costing about £12,000. The next step is seeking approval from the National Institute for Health and Clinical Excellence (NICE), which issues guidelines for health trusts, so that NHS patients can have HIFU treatment.

THE HIFU machines should not be regarded as cancer cure-alls. Where cancer has spread into neighbouring areas the treatment is not effective.

During the trials, although overall results were good, some patients who were apparently suitable for treatment did not respond well. HIFU works best on small tumours, which can be destroyed, and there must be a clear path to the tumour, visible using ultrasound.

Professor John Toy, medical director of Cancer Research UK, says: "This new anti-cancer treatment has shown promising early results. Its potential advantage is that it could be used instead of surgery, particularly when an operation would be technically very challenging, used repeatedly if necessary, and wouldn't exclude adding other anti-cancer treatments."

For patients such as Lynne Newman, the benefits already appear to be huge. Now able to eat again, she was able to enjoy her daughter Carly's wedding last month.

"She's been engaged for three years," says Lynne, who is married to John, 50, a financial adviser. "I asked her if she could wait to get married until I