It used to take six weeks and 30 trips to hospital... but now radiotherapy to kill breast tumours can be performed in a single blast

BREAST CANCER REVOLUTION

Fast-track treatment: Peppy Begueria

Picture: MATT WRITTLE

WOMEN with early stage breast cancer typically have the tumour removed, followed by six weeks of radiotherapy involving 30 trips to hospital. Now, a new form of radiation has been developed which has to be done only once. Petipa 'Peppy' Begueria, 51, practice manager for a GP clinic in Camden, North London, had the procedure. Here she tells Carol Davis her story.

THE PATIENT:

LAST May, I was putting on moisturiser after a shower when I felt this hard lump near my right armpit. It was the size of a marble and quite close to the skin. Working in a GP practice, I knew it could be breast cancer.

I saw my GP, who felt the lump and immediately faxed a referral letter over to University College Hospital (UCH). Just eight days later, I had an appointment at the hospital's breast clinic, where a specialist did a mammogram, an ultrasound and a needle biopsy, removing some cells for examination.

Somehow I got through another week, and then the news that I'd been dreading came through: I had breast cancer.

My world fell apart. Thoughts like 'How long have I got?' flashed through my mind. It was a shock because I don't smoke, am generally healthy, and there's no history of breast cancer in my family. Thankfully, my husband Peter was by my side. He's been my rock.

The doctor said my tumour was between Grade 1 and 2, so it was early stage and hadn't spread. I would need to have a lumpectomy — an operation to remove the lump and a margin of surrounding tissue. I was very relieved that it wasn't a mastectomy.

I was also told that I would need to have radiotherapy afterwards to make sure that all the cancer cells were killed. I knew that women usually have a six-week course, going to the hospital five times a week to have a small dose of radiation each time. It was not only time-consuming, but there could be side-effects, too, such as the breast becoming discoloured.

I work around doctors and like to read medical journals, and I'd read about the Targit trial at UCH, where doctors were testing a new technique using a single dose of radiation. They did it at the same time as the lumpectomy, so it was a one-stop op.

THE trial has been going on for a decade, so it was pretty clear it was both safe and effective. The hospital agreed to put me forward — and luckily I fitted the criteria. I met Mr Jayant Vaidya, who was going to perform the procedure, and he explained it to me.

On the day of the operation, August 5, 2010, I was quite nervous but I just wanted to say goodbye to the cancer.

When I came round, I touched my breast. I didn't feel sore at all and I didn't need much pain relief. I had a small scar on the outside of my breast where the surgeon had removed the lump, and one under my armpit where they had taken some lymph nodes.

Mr Vaidya came in to tell me that the operation had gone very well and that the radiation dose had been given. I went home the next day, and two days later I was out at the cinema with Peter. Friends and family told me I looked radiant — not at all like a cancer patient.

Six months later, there has been no recurrence of the cancer and I am optimistic I have beaten it. I would recommend this treatment to any woman undergoing breast conservation surgery.

ME AND MY OPERATION

TARGETED INTRAOPERATIVE RADIOTHERAPY

THE SURGEON

MR JAYANT VAIDYA is an oncologist and consultant breast surgeon at the University College, Royal Free and Whittington hospitals in London. He says:

EVERY day in the UK, around 130 women are diagnosed with breast cancer. It is most likely to occur in women aged 50 and over, and risk factors include smoking, obesity and having a close relative who has had the disease.

When the cancer is caught at an early stage, lumpectomy followed by radiation therapy is often sufficient. The patient will have her operation and then have radiotherapy for five to six weeks. This vastly reduces the chances of the cancer recurring.

However, if the cancer is more advanced and has spread to the lymph nodes, we will usually carry out a mastectomy with chemotherapy or hormone treatment, as well as radiation treatment.

In standard radiation, high energy rays are beamed into the breast from outside. It is effective for early stage breast cancer, but it is inconvenient for the patient, who has to go into hospital each time for an appointment that can last 30 minutes.

Radiotherapy can also affect the shape and colour of the breast, and because the radiation passes through the body from outside, it can damage healthy tissue surrounding the target area.

In 1996, in collaboration with Professor Michael Baum and Professor Jeffrey Tobias, we developed a technique that we called Targeted Intraoperative Radiotherapy (Targit for short). Here, instead of firing the radiation through the body, we fire it from inside the breast, where the tumour was situated.

We treated the first patient in July 1998 and launched the trial in March 2000. By the time we reported the results in The Lancet in 2010, it had grown to include 28 therapy centres in nine countries (including five in the UK).

We have already published results that showed that women who had Targit had the same low recurrence rates as women who had the longer radiotherapy — around a 1 per cent chance of developing it in four years.

FIRST, Peppy was given a general anaesthetic. I used X-rays to help me locate the lump and then carefully removed it along with a small margin of healthy tissue. It's important not to remove too much or the breast loses its shape, but you do need to make sure you get all the cancer out.

I then had to remove several lymph nodes from under her arm for analysis later.

Next I took the Intrabeam device, which I helped to design, and placed it into the wound in the breast. It looks like a ball with a tube going through the middle, which connects to our radiotherapy machine, and a piece of solid gold in the centre.

We closed the tissue around device with a suture and turned on our machine. This fires negatively charged particles called electrons through the tube and right at the piece of gold in the ball. When the particles strike the gold, X-rays are emitted, targeting just the area around the ball, so no other nearby organs are affected.

The treatment lasts from 25 to 35 minutes. The electron beam was then switched off and the ball removed. Peppy recovered well and went home the same day. There was some mild discomfort but no worse than if she'd had the lumpectomy alone.

When the final results are published, it could well be that this treatment becomes the gold standard for patients with early stage breast cancer. If so, it will cost less than half that of a six-week course of radiotherapy, which costs the NHS £15m a year.

■ *THE treatment is still only available to patients taking part in the trial, and to a limited number of private patients, but it is likely to be available more widely soon.*