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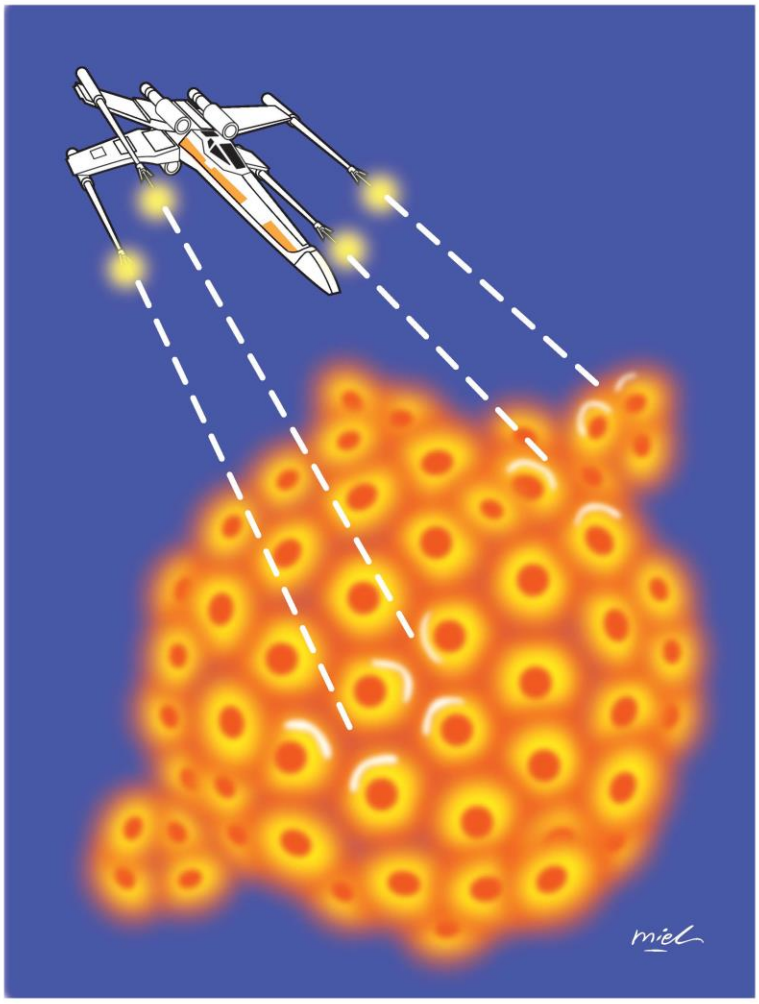

Brachytherapy: Targeting the enemy from within

Method delivers high doses of radiation to cancerous tumour via tubes inserted in it

Vicky Koh

In the blockbuster movie, Star Wars: Return Of The Jedi, a pilot bravely flies his spaceship into the centre of an enemy space station called the Death Star.

Once inside the Death Star, he blows up its core, sparking an explosion and destroying the gargantuan space station from within. He escapes in the nick of time.

Brachytherapy, a form of cancer treatment, is similar to this.

A radioactive source is placed within a tumour or tumour cavity to allow doctors to deliver very high doses of radiation to a cancerous tumour in a short time, decimating it from within.

This is unlike most radiation therapies, which are delivered through a beam from outside the body. This beam has to pass through normal healthy organs before it reaches the tumour, which may lead to unwanted side effects.

The term "brachytherapy" is derived from the Greek word "brachy" meaning close, and the more common term "therapy" for treatment.

The basic principles of brachytherapy require a radiation-emitting source to be placed within or in very close proximity to its target.

Its use in cancer treatment can be traced back to the early 1900s when it was observed that tumours shrank after exposure to radioactive sources.

Advances in technology have ensured improvements in safety, allowing treatment to be delivered more precisely and accurately.

Today, our doctors are assisted by advanced imaging techniques to better visualise the tumour.

Computers and software help in the complex calculations required in planning treatment doses for the tumour.

And medical advances in anaesthesia allow the procedure to be performed painlessly.

Brachytherapy can be used to cure many types of cancer, such as breast cancer, cervical cancer and prostate cancer, to name a few.

The radioactive source reaches its target through tubes or needles that have been inserted into the tumour.

After the radiation has been delivered, both the source and the tubes are removed from the body.

Madam Feng had been experiencing abnormally heavy menstrual periods for a few months. She visited her gynaecologist who found a large tumour growing on her cervix. Madam Feng was understandably distressed with the diagnosis and was worried whether she could be cured.

At the time of diagnosis, the mother of six was working full-time. Fortunately, scans showed that the tumour had not spread to other parts of her body. The disease was still curable.

When she first saw me, she was keen to start treatment soon so that she could return to work.

She embarked on a course of chemotherapy and radiotherapy which she tolerated very well. Her tumour shrank significantly.

However, a small tumour remained in her cervix. Without brachytherapy, the treatment she had received would have been insufficient to cure her.

Studies show that brachytherapy, when delivered after chemotherapy and radiotherapy, increases cure rates of cervical cancer as high radiation doses can be delivered to the tumour. Brachytherapy is thus an integral part of cervical cancer treatment.

Madam Feng received four sessions of brachytherapy. At each session, small plastic tubes were inserted into the tumour. A radioactive source subsequently delivered high doses of radiation to her tumour through the tubes.

Once sufficient radiation had been delivered, the source and the tubes were removed.

The whole procedure was performed painlessly under anaesthesia without an inpatient stay in the hospital.

Madam Feng returned to work a week after completing brachytherapy. I met her recently, about a year after her treatment, and congratulated her on being disease-free.

She was then busy planning a holiday with her family. After her brush with cancer, she is now determined to live life to the fullest by indulging in her hobby of travelling.

I was pleased to see her in excellent health and encouraged her to travel.

Brachytherapy is a safe procedure and advances in technology have increased its use in treating cancer. In Madam Feng's case, it saved her life.

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