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DocTalk

When conventional cancer treatment doesn't work on kids

They can consider different chemotherapy regimen or clinical trials for new treatments

Tan Poh Lin

It might be inconceivable to think that young children and teenagers, who are meant to be happy and healthy in their growing years, could be afflicted with cancer.

After all, they have not lived long enough to be exposed to environmental risk factors known to cause cancers. Yet, as paediatric haemato-oncologists, we know too well that childhood cancers can strike the unsuspecting without rhyme or reason.

And when they attack aggressively and do not respond to the best standard of care, we ask ourselves, what's next?

Fortunately, childhood cancers that are refractory to modern chemotherapy and radiotherapy are rare. After an intensive year of chemotherapy and radiotherapy, 15-year-old Victoria and her parents were told that the end-of-therapy MRI scan showed a residual tumour at the original cancer site.

The good news was that all previously known metastatic sites were cancer-free.

When faced with bad news at the end of therapy, our "prophetic" abilities – based on well scoured and analysed scientific evidence and data – in predicting the outcome neither protect nor console. However, if taken in perspective, they can guide and redirect our goals of management.

Patients like Victoria may consider a different regimen of chemotherapy or enrol in clinical trials for new treatments, if these are available. Others may choose a "wait and see" approach or pursue alternative, complementary medicine.

Research in the field of cancer medicine has provided much needed insights into the molecular biology and genetics of many types of cancers. This has helped drive development of novel therapeutics that targets the cancer biology, thus providing better "on-target and off-target" effects that could translate into better survival chances.

Generally, new treatments that are being tested in clinical trials include high-dose chemotherapy with stem cell transplants, immunotherapy and targeted therapy, all of which are being evaluated for the cancer that Victoria had.

A promising approach is the use of immunotherapy, of which there are two major forms. One utilises drugs called biologics, and the other uses live immune cells. These agents are designed to boost, redirect or restore the body's natural defences against cancers. Increasingly, clinician scientists are learning to use combination therapy which has proven very effective in early trials.

Victoria enrolled in a Phase II clinical trial that uses a healthy donor's immune cells that are known in pre-clinical models to recognise and kill the cancer she had. Phase II clinical trials are meant to determine if a therapy has any efficacy and, hence, therapeutic effects are not promising.

For Victoria, we were both pleasantly surprised and grateful to find out that she responded to the experimental therapy.

She went on to complete the therapy with a stem cell transplant in early 2016 and surveillance scans since then have shown sustained remission of the cancer.

A few weeks after the transplant, Victoria was able to resume her life. She returned to things she enjoys doing, including school and travelling, and had the chance to watch her favourite football team play in Liverpool, Britain.

The risk of a recurrence became increasingly remote as time drew further away from the initial diagnosis in 2014. The chance of surviving this cancer increased from a mere 10 per cent to 90 per cent.

Smarter medicines like what Victoria received are being actively evaluated for refractory or resistant cancers in the best centres worldwide. Some of these would become part of mainstream therapy in time.

While we look forward to a future of hope for the patients with bad cancers, we recognise at the same time a future of uncertainty for the individual who may or may not enjoy the desired outcome.

Whatever the process and outcome, the promise to our patients shall always be to provide the care they need, balanced with the best of clinical minds and the basics of human touch.

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