MIND your BODY

Doc Talk

Helping the blind see again

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Ms L, a 58-year-old woman who had been blind in the left eye for four years, came to see me hoping that I could restore vision in that eye.

She had previously undergone several eye operations in the left eye and eventually developed corneal decompensation, where the cornea (the central clear part of the eye) became swollen and cloudy, and the eye eventually lost vision.

Corneal disease is one of the leading causes of blindness in the world. The cornea may become diseased or hazy due to degenerative, infective, inflammatory and hereditary conditions.

Ms L had undergone a corneal transplant five years ago to replace the diseased cornea with a clear donor cornea.

However, the new cornea was rejected by her body within six months of the surgery and she once again lost vision.

A corneal transplant is the most frequently performed transplant, with the number done far exceeding that of other organs such as the kidney, liver and heart.

The success of this procedure is encouraging, as two-year survival rates of the graft reach more than 90 per cent.

However, because normal corneal transplant involves transplanting foreign material from another person to the patient, there is always the potential risk of the graft being rejected and failing.

There are many severe corneal diseases for which a transplant is associated with a high risk of rejection or failure. These include severe eye surface disease such as chemical burns or Stevens Johnson syndrome (a skin disorder caused by a severe allergic reaction), loss of stem cells and severe inflammatory or hereditary corneal diseases.

Ms L's doctor suggested another corneal transplant. However, this is associated with a much higher risk of graft rejection and failure. In Singapore, almost half of the repeat corneal grafts end up failing within three years.

Ms L was warned that the second graft would very likely fail within a year. In addition, she would require immunosuppressive drugs to help reduce the risk of graft rejection, which has potential harmful effects.

She decided not to have a second corneal transplant because of the risks involved. That was how her left eye remained blind for four years.

In the past, many patients like her remained blind because there was no treatment that could provide good long-term results.

The good news is that there is now hope for them.

Restoring good long-term vision is now possible through a new and improved method of corneal replacement – artificial corneal transplant.

The Boston keratoprosthesis transplant is currently the most widely accepted artificial corneal transplant in the world.

It can effectively restore vision in patients with severe blinding corneal diseases, including patients with failed corneal transplants.

In these patients, this type of transplant has significant advantages over a normal corneal transplant.

It has a much lower risk of graft rejection and failure and higher long-term success rate.

Patients also regain their sight faster and do not require immunosuppression. This is because the artificial cornea is made of a biocompatible material that is well accepted by the body.

In addition, the quality of vision that the clear artificial cornea provides is much better than a normal donor cornea.

A transplant of the Boston keratoprosthesis is a highly specialised operation and only a handful of surgeons in Asia are trained to do it.

I performed the first series of such operations in Singapore on patients with various severe corneal diseases, including those whose corneal transplants had failed.

A normal corneal transplant would not have survived beyond one to two years in these eyes.

All patients were blind in their affected eyes before surgery.

But the operations successfully restored vision in these eyes.

It was heartwarming to see these patients regaining their vision and being able to resume their normal lives.

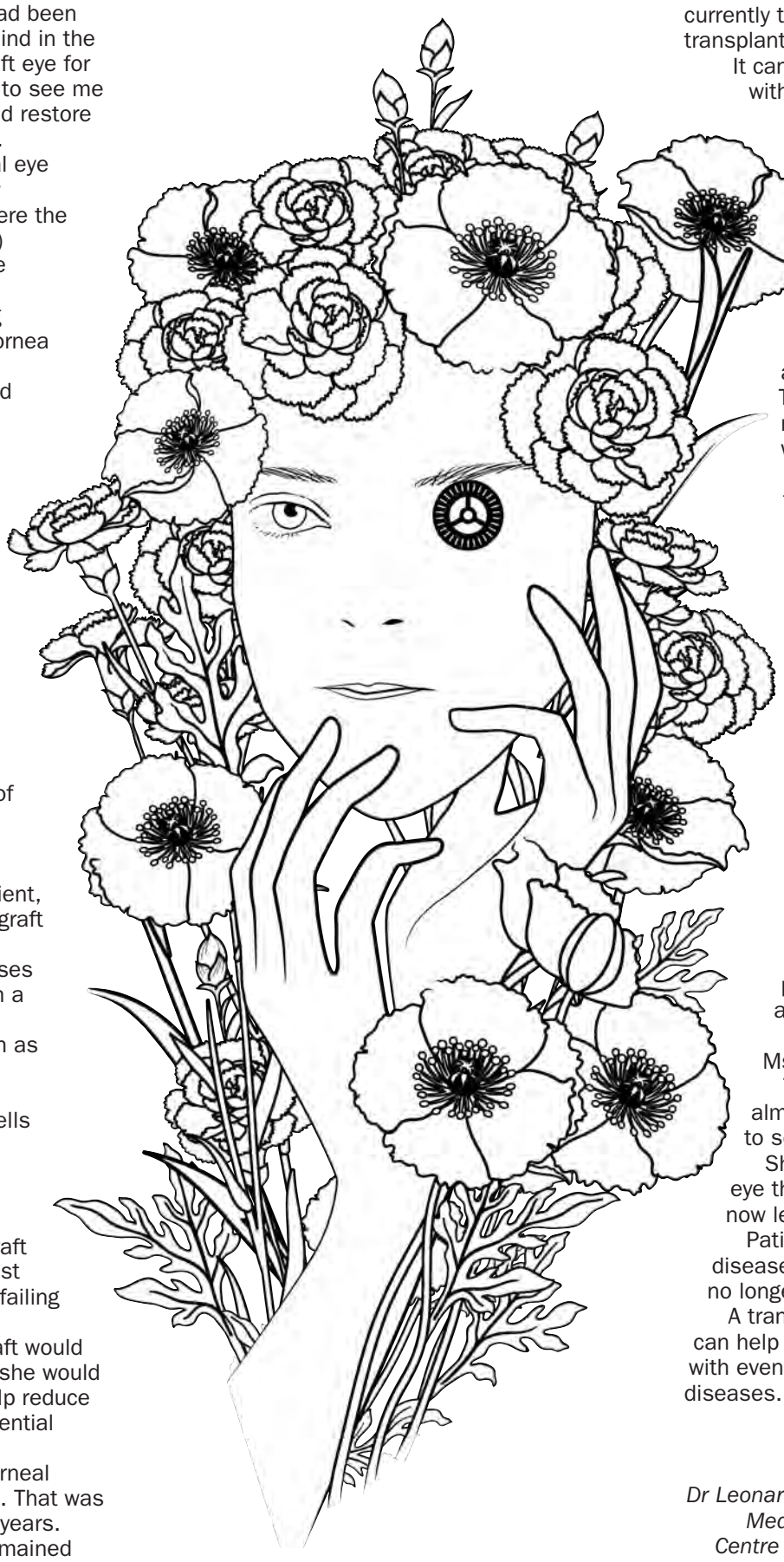
I performed this form of transplant for Ms L as well.

Two months after surgery, she had almost perfect vision. She was finally able to see in her left eye again.

She continues to enjoy good vision in the eye that she had once given up hope on and now leads a normal life.

Patients with severe blinding corneal disease or previous failed corneal transplants no longer need to live in darkness and despair.

A transplant of the Boston keratoprosthesis can help to restore good long-term vision in eyes with even the most severe and complex corneal diseases.



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