Star Health
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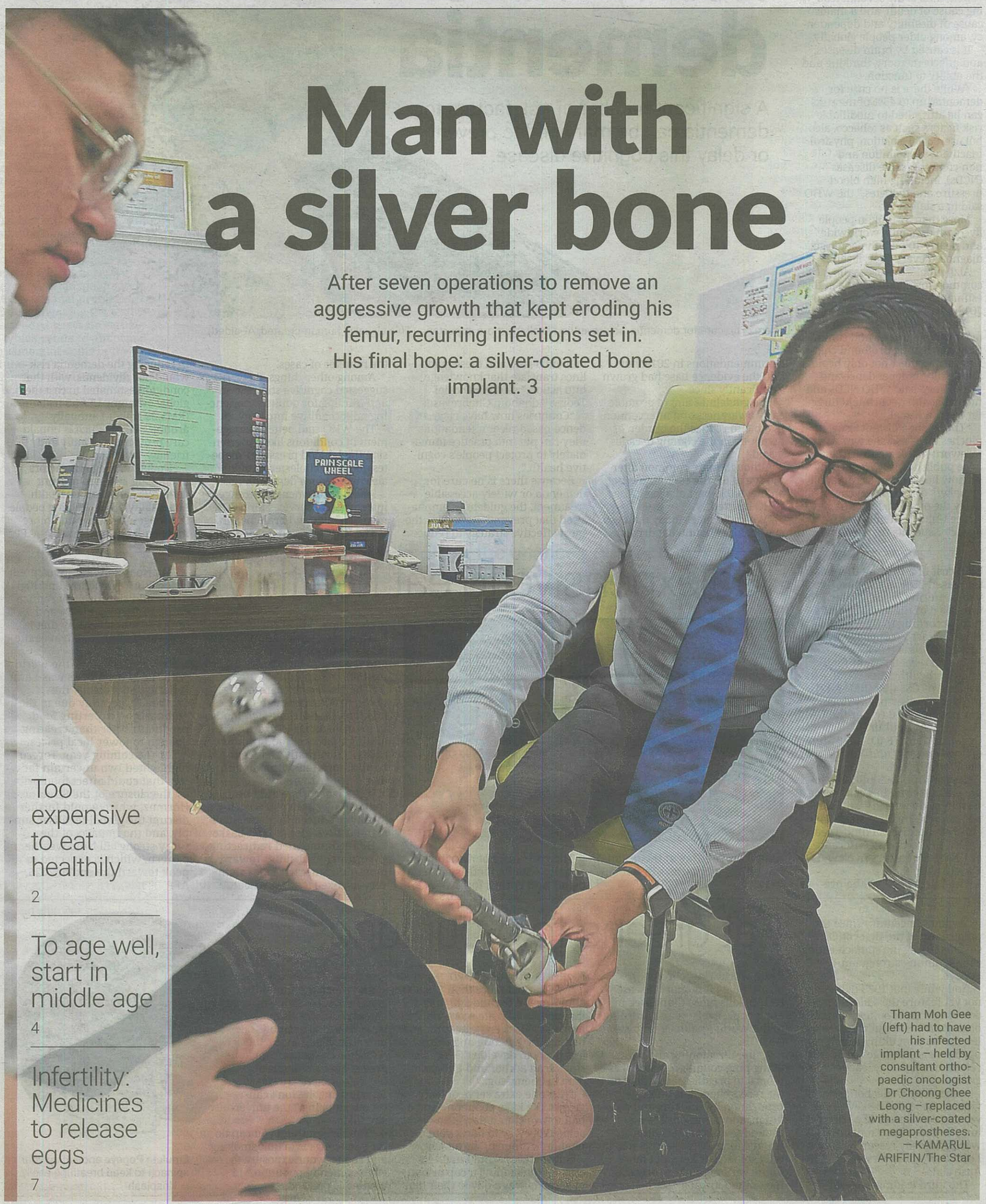
Man with a silver bone

After seven operations to remove an aggressive growth that kept eroding his femur, recurring infections set in. His final hope: a silver-coated bone implant. 3



Tham Moh Gee (left) had to have his infected implant – held by consultant orthopaedic oncologist Dr Choong Chee Leong – replaced with a silver-coated megaprostheses. — KAMARUL ARIFFIN/The Star

Hoping for a silver bullet

By REVATHI MURUGAPPAN
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IN his mid-30s, contractor Tham Moh Gee was at the prime of his life.

His business was doing well, he travelled frequently, played sports, and was surrounded with good friends and a loving, supportive family.

Tham planned to settle down with his fiancee and had already booked a marriage registration date when life threw him a curveball.

An avid badminton player, he was about to retrieve the shuttlecock during one of his biweekly games in 2018 when his knee started hurting.

Assuming it was just a muscle strain, he dismissed it and continued the game.

"The pain didn't go away, so a few days later, I went to the clinic and had my knee X-rayed.

"The doctor couldn't find anything wrong and said it was likely a sports injury and sent me home with some medicines.

"I could still function normally, although I had to go back and forth to the doctor because of the pain.

"I even sought treatment from traditional Chinese medicine practitioners," recalls the 42-year-old, who had no medical ailments otherwise.

While he could still walk and go on with life, after eight months of persistent pain, Tham decided to consult an orthopaedic surgeon, who ordered an MRI (magnetic resonance imaging).

The diagnosis: giant cell tumour (GCT).

It 'ate' his bone

The lesion probably wasn't spotted in earlier X-rays because GCT appears very subtle in the initial stages and is hard to detect.

Tham says: "None of the people I know had heard of this condition, so I searched online for more information and discovered the disease would *makan* (eat) my bone."

GCT is a rare, generally benign (non-cancerous), but aggressive tumour that most often develops near joints at the ends of long bones such as the knees and wrists.

The distal femur (the end of the thigh bone near the knee) is its most common site.

It frequently affects young adults between the ages of 20 and 45, and is characterised by pain, swelling and reduced range of motion in the knee.

Because GCTs are aggressive, they can erode the bone and may lead to a pathological fracture if left untreated.

The specialist recommended curettage – a surgical procedure that uses a scoop-shaped instrument, called a curette, to scrape and scoop out diseased or abnormal tissue from bone.

Trusting the surgeon, Tham went ahead with the operation, felt fine afterward, and resumed his active lifestyle for 1.5 years before the pain returned.

"The surgeon said the GCT had recurred and my bone was getting smaller, so he had to cut the affected portion of the bone and reconstruct the joint," he says.

It kept returning

This "cycle" went on for a few years, meaning that the tumour kept recurring and the bone had to be cut more and more, and replaced with bigger implants.

In 2023, Tham was speaking to one of his construction workers on site when he stepped in a puddle filled with moss, slipped, fell and fractured his femur close to the hip.

The implant had also loosened, causing excruciating pain.

This time, the specialist recommended total femur replacement, a complex, limb-salvaging procedure that removes the entire thigh bone and replaces it with a metal (titanium) endoprosthesis.

All went well and Tham could once again carry out most of his normal activities, although he walked with a slightly abnormal gait.

He switched to playing table tennis more, rather than badminton.

Tham shares: "It was in May 2024 when infection first set in, and from then on, it was recurrent – the doctor would clean it up (surgically) and it would return.

"I was in constant pain and could no longer bend my knee, drive or work, and had to rely on crutches to walk.

"My thigh felt hot all the time (a sign of inflammation) and the doctor put me on strong doses of antibiotics and painkillers for more than a year.

"I found myself getting weaker every day, so I stopped taking antibiotics for a few days, but my inflammation markers skyrocketed so I had to continue taking them."

Silver for a first

With recurrent infections, multiple hospitalisations, nerve pain and significant functional impairment, Tham hit rock bottom.

Often, he would lie in his room and cry over his predicament, unsure how to resolve his problem.

By this time, he already had seven surgeries on his right knee and deep, long scars along his thigh.

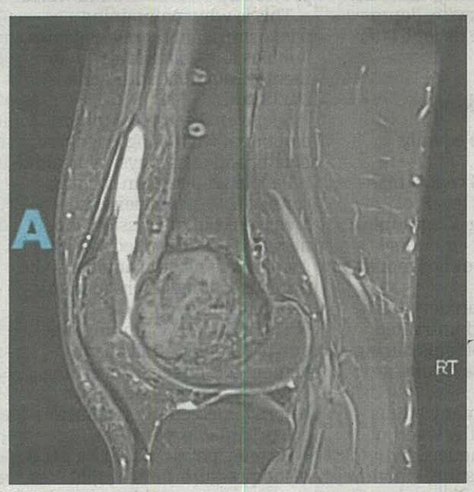
Incidentally, many of these surgeries were performed in June, his birthday month.

He sold his car as he could no longer drive, gave up his business and broke up with his fiancee last year as the future seemed bleak.

"We were together for five years and I felt it was unfair for her to keep waiting for me to get better.

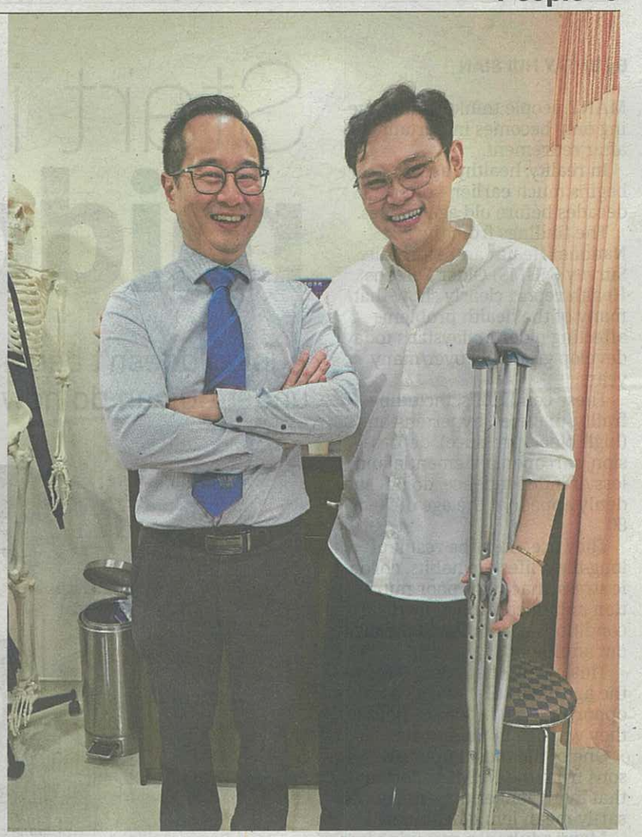
"Both of us were extremely sad," Tham shares pensively.

He sought multiple opinions from different specialists to no avail – the possibility of amputation loomed ahead – until a friend recommended consulting consultant orthopaedic oncologist Dr Choong Chee Leong.



Tham's first MRI clearly reveals the giant cell tumour growing inside his distal femur bone. — THAM MOH GEE

A silver megaprosthesis is a specialised orthopaedic implant often used in limb-salvaging surgeries as the silver coating is designed to inhibit bacterial colonisation and prevent prosthetic joint infections, which are major risks in massive bone reconstructions. — Beacon Hospital



It's been almost five weeks since Tham (right) had his 11-hour surgery and Dr Choong is delighted that the smile on his patient's face has returned. — KAMARUL ARIFFIN/The Star

With nothing to lose, Tham made an appointment to see him last December.

Says Dr Choong: "My knowledge also has a limit, so I told him the only way to save his leg is to continue the antibiotics or to change his completely-infected implant into a silver-coated one.

"A silver-coated implant has antimicrobial properties, designed specifically to prevent dangerous bacterial infections and biofilm formation.

"It is often paired together with calcium sulphate – a bone void filler, which has been in Malaysia since 2023 or 2024.

"Before that, most surgeons used bone cement with antibiotics inside."

The calcium sulphate can be moulded into beads or paste, and packed into the empty space around the femur.

It acts as an antibiotic carrier and is completely resorbable, meaning it dissolves and is replaced by new bone as the body heals.

Tham agreed with this option and had his eighth surgery on June 11 – a week before his birthday.

The implant costing almost RM100,000 had to be specially ordered from abroad – thankfully, Tham has adequate medical insurance coverage.

"His leg anatomy had been changed from a normal one according to the textbook to one which has undergone multiple surgeries – I wasn't sure where the artery or nerves were so I had to really scrutinise the area!" reveals Dr Choong, who learnt this technology in Britain.

The 11-hour surgery crossed over to June 12 as the surgeon and his team had to remove the old implant and all the bone cement, thoroughly clean the area, excise infected tissue, release and reconstruct the soft tissues, and introduce what is possibly Malaysia's first silver-coated total femur megaprosthesis.

Dr Choong made a 50cm lateral incision following Tham's previous scar, from his buttock, all the way to below his knee.

Progressing well

After spending 20 days in the private hospital, Tham was discharged a fortnight ago.

His boyish smile has returned and he is no longer in severe pain or needs oral antibiotics.

Dr Choong says: "It's still in the early stages, but I've told Tham the risks – if things are not doing well or he gets infected and the pain is so severe, then there's nothing much left that I can offer.

"Unless there are other future options that can be proposed by another surgeon who has returned from training elsewhere."

He adds: "My wish is to see him be independent and go back to work again because he's still young and has his whole life ahead of him."

Tham, meanwhile, is in high spirits – he began rehabilitation sessions last week and is thrilled to report that he can now bend his knee 60-70 degrees and take a few steps using a single crutch.

"I'll be happy just to be able to drive again – maybe buy an electric vehicle.

"I also need to find a job, travel and play sports again," he says excitedly.

Hopefully, next June, Tham will be able to celebrate his birthday away from the hospital.