

Treating club foot

Mind Your Body, The Straits Times (Wednesday, 23 July 2008)

A congenital deformity where the foot looks like a golf club affects one in every 1,000 babies. ESTHER TEO finds out more

A little known birth defect of the foot was recently brought into the spotlight by 15-year-old Jingle Luis (right) from the Philippines.

She was treated in New York for her severely clubbed feet and she can now walk without crutches.

Club foot is a congenital deformity which affects one or both feet, leaving the foot looking twisted so that the person appears to walk on his ankle and the outer or inner edge of his foot.

Put simply, the foot looks like a golf club.

The incidence of club foot is estimated to occur in one in every 1,000 live births, with the male-to-female ratio at 2 to 1.

Bilateral involvement - when both feet are affected - occurs in 30 to 50 per cent of the cases.

In Singapore, about 15 new cases are identified a year.

Doctors still do not know its cause. Associate Professor James Hui, a senior consultant at the department of orthopaedic surgery at the National University Hospital, says there may be a hereditary or genetic component to it.

Patients with special conditions such as spina bifida or arthrogryphosis, a condition involving multiple joint contractures (chronic loss of joint movement), are commonly associated with club foot.

In addition, a sibling or parent having club foot also increases the likelihood of a newborn having the condition.

The position of the foot in the womb might also have an effect.

Before the child is born, club foot can be detected through an ante-natal ultrasound scan; after birth, it can be detected by looking at the shape and position of the foot.

After a diagnosis of club foot is made, an X-ray will show its severity: mild, moderate or severe.

Early diagnosis is crucial for successful treatment.

Treatments range from non-surgical methods, such as serial castings of the foot followed by a possible minor operation to release the tight heel cord - collectively known as the Ponseti Technique - to surgical methods that involve adjusting the tendons, ligaments and joints in the foot.

With the Ponseti Technique, most children will, after healing, be able to run and play without pain. They can wear normal shoes too.

However, the leg with the corrected club foot usually has a smaller calf and foot size and the foot may also be somewhat less mobile than a normal one.

Although not a painful condition, club foot may result in severe pain, blisters and calluses later in life if left untreated or incompletely treated.

It also causes an abnormal gait, with possible secondary changes occurring in the bones in the foot and ankle that may cause early osteoarthritis.

Dr Arjandas Mahadev, a senior consultant in the department of orthopaedic surgery at KK Women's and Children's Hospital (KKH), says that this is because the patient is walking on a part of his foot not designed for weight bearing.

He adds that the Ponseti Technique has a more than 90 per cent rate of success.

Dr Sarbjit Singh, an orthopaedic surgeon at Mount Elizabeth Hospital, says detection rates in Singapore are high and the condition is often detected at birth.

He says: 'This is when Singaporeans' kiasu nature is a good thing because early detection allows for club foot to be more successfully treated.'

However, over-diagnosis can occur and occasionally a less serious form of foot deformity known as metatarsus adductus, which can often be corrected with simple exercises, is mistaken for club foot.

Happy feet = Happy baby

From just looking at his newly corrected foot, you would not be able to tell that four-month-old Samuel Lee once had club foot, a birth defect that made his right foot twist inwards.

His mother, Ms Sari, 30, a Chinese Indonesian who moved here as a permanent resident last year, could not be any more relieved.

The condition was first diagnosed during an ante-natal ultrasound scan when she was 23 weeks pregnant with her only child. The examiner spotted something amiss and diagnosed the condition after a second examination.

'It's good that we found out before I gave birth, otherwise we would have been very shocked,' says the housewife who lives with her husband and brother-in-law in a rented flat in Toa Payoh.

Although initially worried and upset as she had never heard of the condition, she did intensive research on the Internet and was comforted when she found out that club foot was an easily treatable condition if diagnosed early.

'My friends and family were there to support me. They told me to think positively. At least club foot is a correctable birth defect; if he had organ failure, it could have been much worse,' she says.

When Samuel was just two weeks old, he began his treatment using the Ponseti Technique at the National University Hospital. The method involves serial castings followed by a possible minor operation to release the tight heel cord.

After five consecutive weeks of casting, Samuel underwent a 20-minute operation under general anaesthesia to cut his heel cord.

'I was very worried because he had to fast for eight hours before the surgery and he wouldn't stop crying,' says Ms Sari, a former IT consultant.

Now, Samuel is healthy and no longer requires casting but wears a special shoe 23 hours a day to prevent a recurrence of the condition. He is expected to wear a corrective shoe till he is about three or four years old.

His foot has no visible scars and looks perfectly normal now.

Ms Sari and her husband spent about \$3,500 on his medical treatment and corrective aids. The couple have recently joined a Yahoo support group for people with club foot, swapping information and advice with others from all over the world.

They have also written to Dr Ignacio Ponseti, the American physician who developed the Ponseti Technique in the 1940s, initially asking for advice then eventually expressing their thanks for his help.

Says Ms Sari about her son's condition: 'I believe he's going to be fine but I want to watch him walk first. Only then will I be able to tell if he's really going to be okay.'