

Baby & Child

Tailoring leukaemia treatment for children

Doctors here are now able to identify whether a child is suffering from high-, intermediate-, or low-risk acute lymphoblastic leukaemia — the most common childhood cancer. **Shefali Srinivas** finds out how this helps to tailor treatment for each patient and improve cure rates to 84 per cent.

Dr Allen Yeoh, 39, a consultant at the Children's Medical Institute (CMI) in the National University Hospital, is popularly known around the wards as "Uncle Allen".

He has a gentle and comforting manner about him, stopping to greet nurses and patients as he walks through the brightly coloured wards.

No effort has been spared in making the environment child-friendly.

Popular cartoon characters adorn the walls and play areas are part of the waiting rooms where the children have their blood tests.

Dr Yeoh is an expert in acute lymphoblastic leukaemia (ALL), which is the most common of all childhood cancers.

About 40 out of 100 new cases of cancer in children aged between one and 15 are diagnosed as ALL each year.

In fact, Dr Yeoh can diagnose ALL down to any one of its six subtypes.

The result has been an 84 per cent cure rate, which is on a par with that of developed nations.

ALL is a type of cancer that affects white blood cells called lymphocytes. These lymphocytes are made by the bone marrow, which acts as the human body's factory for blood cells.

In ALL, the bone marrow starts overproducing immature versions of the lymphocytes. These are abnormal cells called lymphoblasts and they start to collect in the bone marrow.

Ultimately, they interfere with production of normal blood cells.

Hence, many children with ALL have symptoms of anaemia and bruise easily. This is because their blood platelet count becomes very low.

Leukaemia cells are abnormal cells that cannot help the body fight infections. For this reason, children with

ALL often get infections and have fever.

ALL was treated for years with radiation therapy, which uses X-rays or other high-energy rays to kill cancer cells and shrink tumours.

However, radiation to a child's brain could reduce IQ by nearly 10 points. "This would make the child go from normal to slightly learning-disabled," Dr Yeoh said.

So from 1988 to 1993, Dr Yeoh, along

with treatment. This would reduce the risk of over-treating patients at low risk of relapse and under-treating those at higher risk of relapse.

"In 1995, I developed a method to predict outcomes for children with ALL. We can now classify a group as curable with less treatment, another group as high-risk and an intermediate-risk group," he said.

"The treatment is then tailored

transplants are also promising.

Cord blood is stem-cell rich blood from the placenta which can be transfused into the bone marrow. If the treatment is successful, the stem cells from the cord blood will survive in a patient's bone marrow and produce healthy white blood cells.

Other improvements in treatment include equipment that is child-friendly. For instance, a port-a-cath is a portable catheter that is fixed to the child's chest area, so that regular injections can be delivered with minimal pain. This is in place of trying to find a different spot or vein to inject each time.

"Before, the port-a-cath tubes would get infected easily. But with regular cleaning and by educating parents about its use, we have cut infection rates by nearly 74 per cent," Dr Yeoh said.

The emotional aspect of treatment has also changed. There is more support for patients and their families.

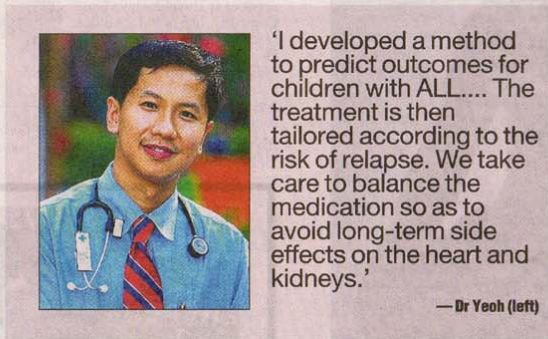
"This is not a centre where patients come, get their treatment and go. It is total cancer care, taking into account financial worries and fears.

"The parents are part of the treatment team. They are informed about the treatment, if there is a change, and why there is a change. I also encourage them to get more information on the Internet," Dr Yeoh said.

The parents of one of his patients, 15-month-old Alessandra Samson, can attest to this. It is this kind of compassion and support that makes all the difference.

"The whole team, from Dr Quah to Dr Yeoh, have been so dedicated. They all bring different strengths to the table and their commitment gives us hope," Mrs Samson said.

Next fortnight: Helping children cope if a parent or sibling has cancer



'I developed a method to predict outcomes for children with ALL.... The treatment is then tailored according to the risk of relapse. We take care to balance the medication so as to avoid long-term side effects on the heart and kidneys.'

— Dr Yeoh (left)

with senior consultant Quah Thuan Chong, launched a trial to try and not radiate the child's brain.

"We got very good results, so we extended the trial till 1996 and the cure rate was at 80 per cent," Dr Yeoh said.

His passion is to try to cure ALL without hampering the child's development.

Another cause for concern was that chemotherapy was administered across the board to children with cancer.

If he could predict the risk of relapse, Dr Yeoh thought, he could refine the

according to the risk of relapse. We take care to balance the medication so as to avoid long-term side effects on the heart and kidneys."

The risk of relapse also helps decide whether bone-marrow transplant would be a better treatment choice than chemotherapy.

Previously, some patients would die while waiting for a donor. Now, there is a Bone Marrow Donor Programme and Dr Yeoh says over 70 per cent of patients find a donor through it.

Advancements in cord-blood

Children and Cancer

They first thought it was an insect bite

When Ally was six months old, she developed a swelling. Soon, the Samsons learnt that their daughter has leukaemia. **Shefali Srinivas** talks to her mother.

Alessandra Samson totters around the living room, showing off her latest word. "Gobble, gobble, gobble," she says, in imitation of the turkey in Elmo videos.

Elmo from *Sesame Street* has been a faithful companion for the 15-month-old toddler. He entertained her from a portable DVD player throughout the painful months when she had to undergo chemotherapy.

Ally was diagnosed with acute lymphoblastic leukaemia when she was seven months old. Her sunny disposition bears no sign of the trauma she has been through.

Mrs Lourdes Samson, 34, smiles at her daughter's antics. "If Ally, being so young, can laugh through all of this, I think that I have no business crying," she says.

Mrs Samson first noticed something was wrong when her only child developed a swelling above her right eye. She was six months old and had just finished all her vaccinations.

"Initially, we thought it was an insect bite," she says.

The doctor referred her to an ophthalmologist, who prescribed some eye drops for an allergic reaction. The swelling did not subside and red bumps began to appear all over her body.

Her worried parents went to a second paediatrician, who said Ally's symptoms were serious and referred her to the Children's Medical Institute at the National University Hospital (NUH).

By then, she had passed a week with fevers reaching 40 deg C, diarrhoea and a lack of appetite. She had also developed bruises on some parts of her body.

Ally was seen by Professor Quah Tuan Chong, head of the paediatric-oncology team at NUH.

"They ran blood tests and a bone marrow aspiration test. They did an MRI scan to check her brain. The bone marrow aspiration test confirmed that it was leukaemia," Mrs Samson recalls.

In the one month since she noticed the swelling above her daughter's eye, Mrs Samson's world had changed dramatically. She took emergency leave from her job as a marketing manager at Dell Computers. Her husband Michaelangelo Samson, 35, a banker, began to read everything he could on acute lymphoblastic leukaemia (ALL).

The Samsons, who had moved to Singapore from the Philippines about seven years ago, had waited five years to have a baby. The diagnosis had left them reeling.

"Mike's way of dealing with the news was to learn about the disease, the treatment. He would read even the most obscure medical journals. I was in shock and I only wanted Ally to feel better," Mrs Samson says.

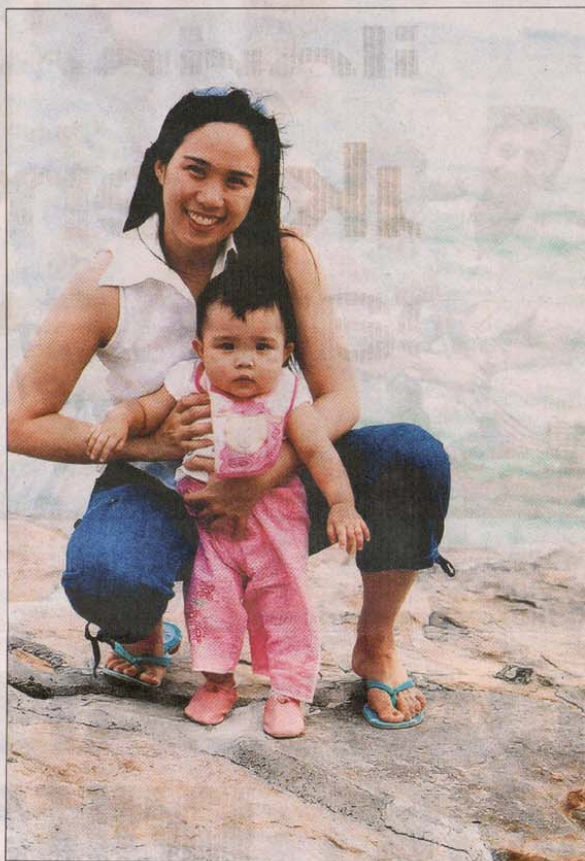
She fell back on a close network of friends. Mrs Camille Genuino, Mrs Margo Encarnacion and Mrs Ria Santamaria banded together to create a strong support network that took care of running errands to the hospital, getting meals and organising prayers for the little girl.

"These ladies, they just took care of everything," says Mrs Samson, her eyes filling with tears.

Treatment for ALL is tough. It involves regular bouts of chemotherapy, platelet transfusions and constant monitoring. Mrs Samson resigned from her job so she could care for Ally.

It was at these gruelling sessions that Elmo became the saviour, helping to keep Ally still while she was being treated.

Mrs Samson is comforted that all the chemotherapy and medication has not held back Ally's development.



Mrs Lourdes Samson draws strength from her daughter Alessandra's happiness. "If Ally can laugh through all of this, I have no business crying," she says.

"The NUH team has managed the side effects so well that Ally is learning to stand, walk and speak just like other kids her age," she says.

In fact, she has put another new word, bye-bye, to good use. "Now, when the nurse comes to give her an injection, Ally says bye-bye to her on sight, because she knows it will hurt," Mrs Samson says.

After eight months of treatment, Ally is finally in remission. "She will have a cord blood transplant in two weeks and we are very hopeful," Mrs Samson says.

What keeps them going through all the pain and anxiety is prayer and the celebration of even the smallest victories. According to Mrs Samson: "When she responds well to a particular treatment, we'll go out for a steak meal or celebrate with a party."

The Samsons have also become involved in a programme sponsored by

the Children's Cancer Foundation (CCF) of Singapore, which seeks to raise the cure rate of childhood leukaemia in less developed South-east Asian nations by funding the training of doctors from these countries.

"In Singapore, the cure rate is above 80 per cent whereas it is a dismal 5 per cent in the Philippines," says Mrs Encarnacion.

CCF has funded the training of two Filipino doctors for the year 2004. The Samsons and their friends are trying to raise funds to extend their training for another year.

"I think this is what is very inspiring about Mike and Lourdes. They would be perfectly within their right to be consumed by Ally's illness but they are able to look outside themselves and see the larger picture," says Mrs Genuino.

To learn more about the Medical Outreach Programme or contribute, log on to www.savealkids.org

PRESS CLIPPINGS



ASHLEIGH SIM

A whole team of caregivers such as nurse manager Ronita Paul (left) take good care of children fighting cancer.

'This day-care centre is a place where these children...get special attention and care, giving parents some sort of relief. They also get to interact with other children suffering from the same predicament.'

— Ms Ronita Paul, nurse manager at the Assisi Children's Centre

Children and Cancer

DAY CARE with a difference

Assisi Children's Centre is a home away from home for children coping with cancer, **Judith Tan** discovers.

Sounds of laughter filled the children's dayroom as Hong Ray, 9, Marcus, 5, and Bjorn, 17, arrived.

It is the March school holidays and the boys had come to spend time with their friends at the Assisi Home and Hospice. From their laughter, they sounded like any ordinary children. Yet, they are not.

All three boys have cancer.

"The increasing number of children stricken with cancer in recent years has led us to start a service for them," said nurse manager Ronita Paul. "This day-care centre is a place where these children... get special attention and care, giving parents some sort of relief. They also get to interact with other children suffering from the same predicament."

Ms Paul, a former paediatric nurse at the Mount Alvernia Hospital who joined the home and hospice in 1992,

remembered how it was at the beginning when there was no proper hospice for children stricken with cancer.

"There was a 14-year-old cancer patient who was under my care. He only needed to be stabilised but there was no one at home to care for him and he was put here among the adults. He kept asking why there wasn't anything in the day here for children. His incessant questions made us start exploring the possibility," she said.

In August 2000, Assisi Home and Hospice opened the Assisi Children's Centre with financial help from the Rotary Club Singapore.

Dr Jan Hallstrom, managing director of Assisi Home and Hospice, said the centre provides a conducive and safe place for the comfort of the children.

"We have nursing staff to look after the well-being of these children. And

we have a team of doctors, counsellors, pastoral care sisters and volunteers who are trained physiotherapists and teachers to see to their needs," he said.

"Parents are so confident that the children are being cared for that they leave them here for the day while they are at work."

Ms Paul added: "We also work closely with the social workers from the Children's Cancer Foundation and the doctors from KK Women's and Children's Hospital and the National University Hospital because the patients came from there."

The centre provides day care and ferries children to and from their homes, for a greatly subsidised fee of \$10 a day.

"We are a non-profit organisation and we depend on donations to keep running, but no child is turned away. We will find all avenues to ensure that every child gets to come and enjoy the centre," said Dr Hallstrom.

Apart from day care, the centre also

organises camps for the children and their siblings.

For children returning to school, there is a special programme run by a group of volunteer teachers, who work out a plan to enable them to catch up with the classes they've missed, according to their capability and state of mind.

Judging by the laughter of the children, the Assisi Children's Centre is indeed their home away from home.

HOW YOU CAN REACH US

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