Born too soon

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Going into labour prematurely may have serious health consequences for the baby.

The Doctor Says

By Dr MILTON LUM

THE duration of pregnancy (gestation) is 40 weeks after the woman's last menstrual period.

The majority of women give birth between 37 and 42 weeks gestation. However, about one in 10 women go into labour and give birth before 37 weeks. This is called premature labour.

Most premature labours occur spontaneously. There are some which are induced because the continuation of the pregnancy would pose risks to mother and/or foetus due to complications.

The risk of premature labour is highest in women who have a multiple pregnancy, who had a previous premature birth, or who have certain uterine or cervical abnormalities.

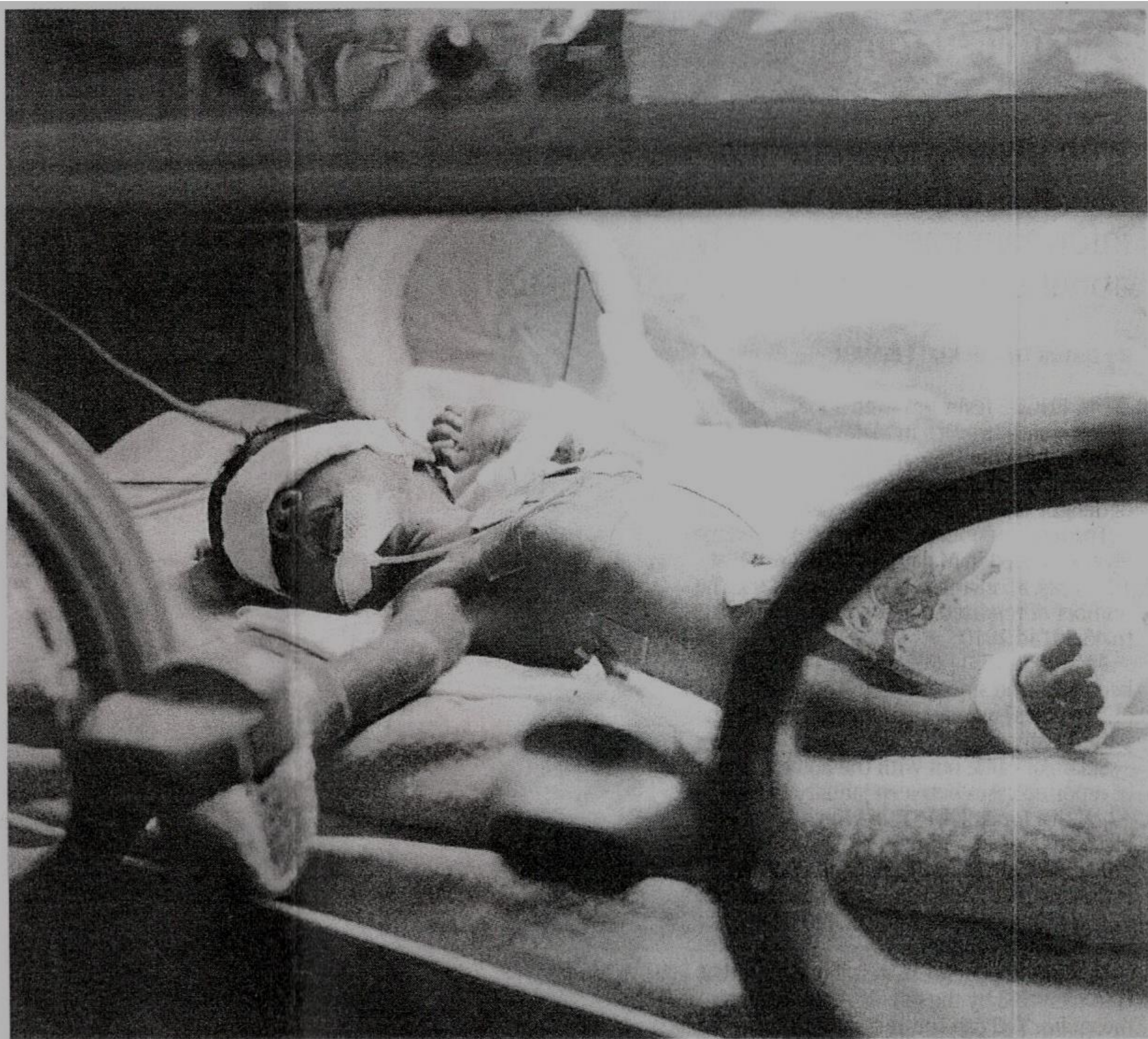
Most twins are born at or before 37 weeks. The average delivery dates for triplets is 33 weeks.

Incompetent cervix is a rare condition in which the cervix opens up weeks before full term.

The leakage of the amniotic fluid that surrounds the foetus in the uterus before full term (PPROM) is a common cause of premature labour.

Some studies associate this with uterine infections.

The management of PPROM is dependent on the amount of amniotic fluid lost, and the proximity to



A premature baby requires nursing in an incubator, along with other medical equipment, that are only available in a NICU.

It must be emphasized that premature labour does not always result in premature birth.

The longer a foetus is in the mother's uterus, the higher are the baby's chances of being healthy. Premature birth has immediate and long-term health implications for the baby.

The earlier a baby is born, the higher is the risk to the baby's health. One out every two babies born before 24 weeks live, and the other may die or have long-term problems.

On the other hand, the survival rate of babies born after 32 weeks is high, and most do not develop long-term complications.

The premature baby has immediate problems with breathing, feeding and maintaining temperature. This requires nursing in an incubator, oxygen by mask or ventilator, and feeding by a tube inserted into the stomach or into a blood vessel.

Premature babies born in a hospital with a neonatal intensive care unit (NICU) have the best outcomes.

However, not every hospital has a NICU. As such, it may be necessary to transfer the mother and baby to another hospital with a NICU, preferably before delivery or immediately after the baby's birth.

The longer term problems of premature babies include developmental delay, asthma, behavioural problems and learning difficulties.

The earlier the premature birth occurs, the more likely the baby will be readmitted to hospital in the first few months of life, compared to those born at full term.

Why it happens

Why some women go into premature labour and others do not is not well understood. About half of premature labours occur in apparently uncomplicated pregnancies for unknown reasons.

What is known is that there are certain factors that increase the chances of premature labour. However, having a risk factor does not mean that premature labour will occur.

the estimated date of delivery.

Common or recurrent maternal infections, viz vaginal, cervical, urinary tract or sexually-transmitted infections are risk factors.

Any infection with a fever more than 101 degrees Fahrenheit during pregnancy is also a risk factor.

Chronic maternal illnesses like high blood pressure, diabetes or kidney disease are risk factors.

This is especially so when the condition is poorly controlled, and the only way to manage the worsening situation is to deliver the foetus. Sometimes, labour is induced, and at other times, it occurs spontaneously.

Abdominal surgery during pregnancy, eg for appendicitis is a risk factor.

In general, surgery is not done in a pregnant woman unless it is essential.

Placenta praevia is a condition in which bleeding occurs during labour from the placenta located over the cervix.

The mother will usually have a Caesarean section (CS) before labour starts, ie about 39 weeks.

Sometimes, bleeding occurs earlier, and if substantial, the CS done could result in premature birth.

Multiple first trimester abortions, and one or more second trimester abortions are risk factors.

Other medical risk factors include being underweight or overweight before pregnancy, short interval between pregnancies (less than six to nine months between birth and beginning of the subsequent pregnancy), and blood clotting disorders.

Smoking, excessive alcohol consumption, and drug misuse or abuses are risk factors.

Physical, sexual or emotional abuses are also risk factors attributable to the increased stress levels.

Other risk factors include long working hours, low income, little or no antenatal care, and lack of social support.

Get checked immediately!

Any pregnant woman should seek medical attention without delay if there are clinical features of premature labour.

These include uterine contractions occurring every 10 minutes or more often in an hour; leakage of watery liquor from the vagina; change or increase in the type (watery, mucus or bloody) of vaginal discharge; menstrual-like lower abdominal cramps; pelvic pressure, as if the foetus is pushing down; or constant low, dull backache.

The obstetrician or midwife will examine the patient to determine whether the mother is in premature labour.

Information about the frequency of contractions is provided by abdominal palpation and/or electronically with a cardiotocograph.

An examination with an instrument called a speculum may provide information about the dilatation of the cervix and/or leakage of amniotic fluid through the cervix.

If the membranes have not ruptured, a digital vaginal examination will be done to assess the dilatation of the cervix.

If the membranes have ruptured, it may not be done, as it will increase the chances of foetal infection.

The application of a nitrazine stick to the vaginal discharge may detect PPROM, although there may be false-positive results if the vaginal pH has been changed by urine.

A vaginal swab for culture is usually taken to facilitate appropriate antibiotic therapy if an infection develops later.

To stop or continue

When a diagnosis of premature labour is made, the primary consideration is to get the mother to a hospital that has the facilities for safe delivery of a premature baby, ie a NICU.

If the patient is at home, an ambulance with at least a midwife in attendance should be called for.

If the patient is in hospital, the paediatric team on call would be informed.

Premature labour may be stopped if diagnosed early, and there is no risk of infection, bleeding or other complications for the mother and foetus.

It may be allowed to continue if the labour is too advanced, or there are reasons that the foetus is better off being born, even if it is early. These reasons include infection, high blood pressure, bleeding or signs that the foetus has problems.

Corticosteroids are prescribed to help accelerate foetal lung maturity. They are most helpful if given between 24 to 34 weeks gestation, and 24 hours before the baby is born.

Medicines called tocolytics delay or inhibit uterine contractions.

They include beta2 agonists like ritodrine, salbutamol and terbutaline, which relaxes the uterine muscles; magnesium sulphate, which is believed to affect the function of calcium ions in uterine muscles; and non-steroidal anti-inflammatory drugs like indomethacin, which inhibit the production of prostaglandins that promote uterine contraction and thinning of the cervix.

Medicines like atosiban, which inhibit oxytocin, and nifedipine, which causes the blood vessels to dilate and acts directly on the uterine muscle, are also used. Both medicines have been reported to maintain tocolysis for a longer time, and have fewer side effects.

Tocolytics are rarely effective in reducing the contractions for more than 48 hours.

As such, its primary use is in delaying delivery for a sufficient time to allow corticosteroids to be given to the mother to reduce the risk of respiratory distress in the newborn.

This delay in delivery may also facilitate transfer to a hospital with a NICU.

Tocolytics are not given if the mother has conditions like an infection, heart or lung disease.

Antibiotics are usually prescribed with tocolytics to cover for infections, which may have been the cause of the premature labour.

The mode of premature delivery is influenced by the foetal presentation and gestation.

Most premature babies are delivered safely vaginally if the foetal presentation is head first, but a few will require CS. It is safer to deliver breech presentations below 32 weeks by CS.

Knowing helps in prevention

There are risk-scoring systems that are helpful in assessing the risk of premature labour.

Those identified may benefit from ultrasound measurements, which can detect a short cervix; fibronectin assessment (its presence in the cervical secretions at 22-23 weeks gestation is suggestive of increased risk); or salivary oestriol assessment, which does the same.

The risk of premature labour has been shown to be reduced with antibiotics prescribed to women at risk during the second trimester.

Tocolytics are prescribed to prevent premature labour from starting.

The measures that can be taken by a patient include smoking cessation; avoiding excessive alcohol consumption and/or drug misuse or abuse; seeking help if there is physical, sexual or emotional abuse; eating properly; getting plenty of rest; avoiding strenuous work and overexertion; and keeping antenatal clinic appointments.

It is important to be able to recognize the signs and symptoms of premature labour, and to know what to do.

There is evidence that the overall premature birth rate is reduced, the more women know about the risks and signs of premature labour.

■ *Dr Milton Lum is a member of the board of Medical Defence Malaysia.*
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