Conjoined twins

Patient Information Series – What you should know, what you should ask.

What are conjoined twins?

Conjoined twins are twins that share the same placenta and the same sac and are fused together by the same body part one to another (e.g. belly-to-belly). In some cases, they also share some internal organs (e.g. a single heart or liver shared by both fetuses).

How does this happen?

Conjoined twins are likely caused by late division of one single fertilized embryo attempting to split into two individuals. The early embryo attempts to split up into two different embryos between 12 and 15 days after conception. At this stage, the single placenta and amniotic sac are already formed in addition to some body parts. With a split occurring this late in gestation some body parts can be shared.

How are chromosomes relevant to conjoined twins?

Conjoined twins are not caused by differences in the genetic material. In general, monoamniotic twins have a similar or lower risk of having an abnormal number of chromosomes (known as “aneuploidy”) compared to singleton pregnancies. However, they have a higher risk (15-25%) of having other structural anomalies (especially heart abnormalities).

What are the risks associated with this condition?

Monoamniotic twin pregnancies are at higher risk of obstetrical complications such as spontaneous preterm birth, gestational diabetes and hypertensive disorders of pregnancy.
Conjoined twins are at very high risk of morbidity and mortality, especially when important organs such as the brain, heart or liver are shared between the two twins.

Many anatomical arrangements can be encountered in conjoined twins. Some are incompatible with life and/ or can limit the surgical options for separation of the fetuses after birth. The potential outcomes of the pregnancy will be determined by the degree of organ sharing.

Should I have more tests done?

Monoamniotic twin pregnancies need to be monitored more often than singleton pregnancies.
There is no consensus of how often conjoined twin pregnancies should be assessed, but it is very important that they undergone intensive fetal surveillance in a tertiary care fetal medicine unit for the entire gestation.
The ultrasound schedule usually includes a bi-weekly ultrasound assessment starting from 16 weeks in uncomplicated monochorionic pregnancies.
Moreover, a fetal echocardiography (a specific ultrasound that closely studies the heart of the twins) is suggested and fetal magnetic resonance (MRI) might be useful in these unique cases to characterize the body parts that are fused and plan the post-natal surgery, where feasible.

Following extensive assessment of shared organs, doctors will determine whether these twins can be safely separated. Termination of the pregnancy will also be offered as a management option.

When and how will I deliver the babies?

For all monoamniotic pregnancies, international guidelines recommend elective cesarean delivery at 32-34 weeks of gestation.

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What does it mean for my baby after it is born?

Since the twins are fused together, they may be amenable to surgical separation after birth for division. However, surgical intervention is not feasible in some types of conjoined twins, due to sharing of essential organs (e.g. brain or heart).

Will it happen again?

Evidence about the risk of recurrence of conjoined twins is scarce, but given the rarity of the condition, the risk for recurrence is considered negligible.

What other questions should I ask?

- Does this look like a severe type of conjoined twins?
- Is surgery during the pregnancy available?
- Is surgery after the pregnancy available?
- Where should I deliver?
- Where will the baby receive the best care after it is born?
- Can I meet the team of doctors that will be assisting my baby when it is born in advance?

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