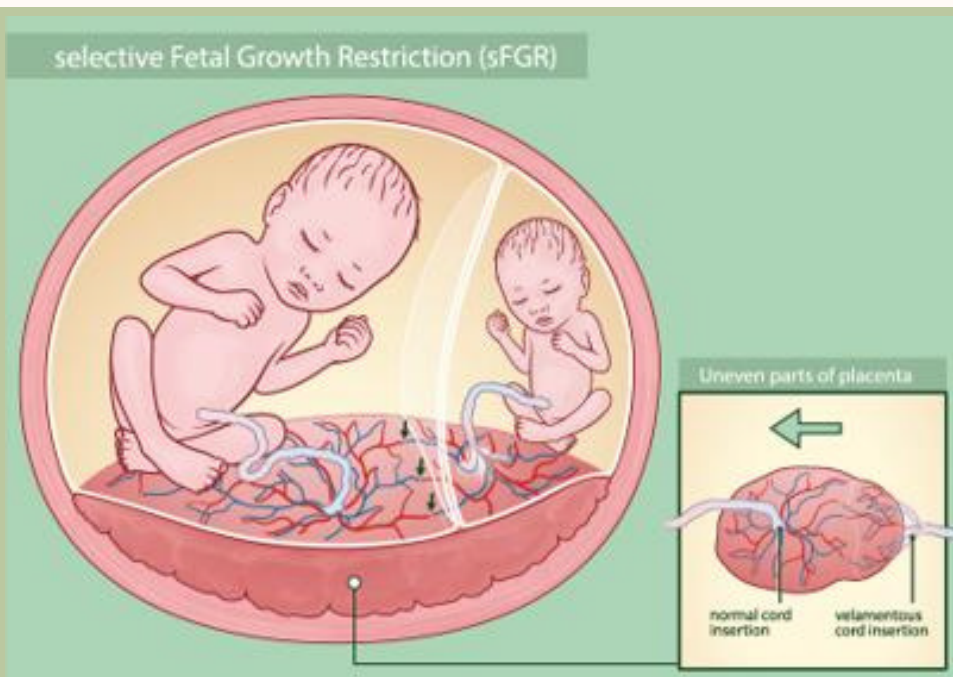


FERN: Intervention or Expectant Management for Early Onset Selective Fetal Growth Restriction in Monochorionic Twin Pregnancy

About 10,000 pregnancies per year are twin pregnancies in the UK. Most of these twin pregnancies result in the birth of healthy babies. But what happens when both twins share one placenta, which occurs in up to one-third of twins? More importantly, what are the consequences when one of these babies gets less nutrients and blood flow than its sibling?



What is selective fetal growth restriction?



Twin pregnancies where both babies share the same placenta (monochorionic twin pregnancies) have a significantly increased risk of developing complications. This is particularly true when one of the twins is remarkably smaller than the other, a condition called selective fetal growth restriction (sFGR).

This condition is associated with serious risks, including stillbirth (death of the baby before being born) and disability. It doesn't spare the larger twin either, as there's an increased risk of death or disability, which could occur in up to 40% of cases.

Furthermore, to prevent the death of the smaller twin, early delivery is sometimes warranted. This, however, exposes the larger twin to prematurity and the potential for lifelong disabilities.

Current practice

Despite the complexity and possible poor outcomes of selective fetal growth restriction in monochorionic twin pregnancies, there is no high-quality evidence to guide doctors and fetal medicine experts in managing these cases. Currently, there are three main management options, each with its own set of risks and benefits, depending on the pattern of umbilical blood flow to the smaller twin (end-diastolic flow):

1. Expectant: Monitoring those pregnancies without intervention carries the aforementioned risks. Most UK fetal medicine experts prefer this option over the other options when the blood flow to the smaller twin is not significantly compromised (i.e. when end-diastolic blood flow is reduced but present or absent end-diastolic flow).

2. Active management: This approach involves addressing the imbalance in sharing blood flow from the placenta, which is often achieved through laser surgery (by sealing the communicating vessels) or selective termination of the smaller twin. Active intervention might be challenging for both practitioners (due to the technical difficulty of performing the procedure) and parents faced with making difficult decisions.

Determining the best management options remains elusive, as there is limited literature that unequivocally supports one option over the others.

Conducting such a research project might be more challenging than other studies for several reasons. One of which is the small number of pregnancies affected by this condition. In addition, it is quite a complex situation expecting parents to agree to be randomised for one of these treatment options.

Going forward

The FERN study is designed to address this critical gap in knowledge. The main purpose of our study, is to assess the possibility of conducting a randomised trial to find the best management approach for this complex issue in the affected twin pregnancies.

The FERN study comprises three main projects to fully understand the condition of current treatments offered across the UK and internationally and to explore parents' and clinicians' opinions regarding a possible randomised study in the future.

The first part of the FERN study has been set up to include any twin pregnancies that share one placenta and are complicated by selective fetal growth restriction in 22 maternity units across the UK. We are in the process of reaching out to a hundred cases to gain an in-depth understanding of the complexities of this unique condition and find the safest option for dealing with it.

The second part of the FERN study assessed both parents' and clinicians' management preferences using interviews and focus groups to identify ethical concerns and barriers to randomisation to various management options. This information will be important to inform the third part of the FERN study.

The third part of the FERN study will utilise the information gained from first and second parts of the FERN study to develop a consensus on a future definitive study. The consensus will involve all stakeholder groups including patients, clinicians, funders, policymakers and charities.

Recent developments

The second part of the FERN study is complete and has been submitted for peer review.

The third part of the FERN study is in progress, and a consensus meeting with hybrid attendance has taken place in London.

Keep up to date

The FERN Study blog provides information and updates from the FERN Study team. You can register to receive updates direct to your inbox by contacting us by email fern1@liverpool.ac.uk

You may also be interested in:

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