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News Release

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Hormone study pinpoints why early pregnancies sometimes fail

New research could help to explain why pregnancy becomes less likely as women age and why IVF so often fails.

Scientists have shown for the first time that hormones produced inside the womb play a pivotal role in the early stages of pregnancy.

It was previously thought this vital role was carried out solely by hormones made elsewhere in the body, which circulate to the womb through the bloodstream.

But new research has found that specific hormones – known as androgens – help to prepare the womb lining to encourage a successful pregnancy. As fewer of these key hormones are produced as women age, this could partly explain why some older women find it difficult to conceive, researchers say.

The University of Edinburgh team studied womb tissue donated by women who were already undergoing surgery for gynecological conditions. They found that androgens in the womb work with other hormones to help to make the womb lining ready to receive a fertilised egg.

Every month, the structure of the womb lining – known as the endometrium – is reorganised to create an environment that can support and sustain pregnancy.

However, without the right hormonal signals, the endometrium will not provide the conditions required for a fertilised egg to implant.

By identifying the key hormones that control this process, the study could also help explain why IVF often fails when a fertilised egg is placed into the womb, the team says.

The research is published today in *Scientific Reports*. The study was funded by the Medical Research Council.

Dr Douglas Gibson, of the Medical Research Council Centre for Inflammation Research at the University of Edinburgh, who led the study, said: “The research is at a very early stage but it has already improved our understanding of fertility. In the long-term we hope this will lead to more effective fertility therapies”.

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