

Sperm selection for assisted reproduction by prior hyaluronan binding: the HABSelect RCT

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Declared competing interests of authors: Sue Pavitt was a member of the National Institute for Health Research Efficacy and Mechanism Evaluation Board in 2012–18. Robert West holds membership of the Health Services and Delivery Research Researcher-led Panel and Public Health Research Research Funding Board. Sheena Lewis is chief executive officer of the University of Belfast spinout company, Examen Ltd (Belfast, UK) outside the submitted work. David Miller received a grant from Biocoat Inc. (Horsham, PA, USA) outside the submitted work. Jackson Kirkman Brown received support from Origio Inc. (Reigate, UK) to attend a meeting outside the submitted work.

Published February 2019

DOI: 10.3310/eme06010

Plain English summary

The HABSelect RCT

Efficacy and Mechanism Evaluation 2019; Vol. 6: No. 1

DOI: 10.3310/eme06010

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Plain English summary

Almost half of those seeking help to have a baby are affected by male infertility and they may be offered a type of assisted conception called intracytoplasmic sperm injection (ICSI), in which one sperm is chosen and injected directly into the woman's egg.

Usually sperm are chosen by what they look like, but this research tested a new method, which chooses the sperm that stick to a material called hyaluronan (HA) that is normally found close to the egg surface. This method is known as HA binding and the study tested whether or not this way of choosing sperm improved the chances of successful treatment. The study also looked at the proportion of HA-binding sperm and also the quality of sperm's deoxyribonucleic acid (DNA) in the men's samples to see if they were related to clinical outcomes.

Half of the 2772 couples taking part in the study were given normal ICSI and half had sperm selected by HA binding using the physiological intracytoplasmic sperm injection (PICSi)TM dish (Origio, Måløv, Denmark). The numbers of couples getting pregnant ($\approx 35\%$) and having a full-term live birth ($\approx 26\%$) were similar in both groups, but there were fewer miscarriages when using PICSi (12% of all pregnant couples) than in those using standard ICSI (19% of all pregnant couples). A few babies were born before 37 weeks' gestation, with similar numbers for both treatments (3.3%). The overall differences were not big enough to change the way treatment is offered.

The quality of sperm DNA from couples experiencing a miscarriage was no worse than in those who had a baby, but it may have affected their chances of pregnancy.

The study suggests that PICSi does not offer advantages for couples undergoing fertility treatment but may reduce the risk of miscarriage.

Efficacy and Mechanism Evaluation

ISSN 2050-4365 (Print)

ISSN 2050-4373 (Online)

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This report

The research reported in this issue of the journal was funded by the EME programme as project number 11/14/34. The contractual start date was in July 2013. The final report began editorial review in January 2018 and was accepted for publication in May 2018. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The EME editors and production house have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report document. However, they do not accept liability for damages or losses arising from material published in this report.

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