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

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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)™ dish (Origio, Måløv, Denmark). The numbers of couples getting pregnant (≈35%) and having a full-term live birth (≈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.

Plain English summary
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This report

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