Obstetrics and gynaecology

IUI effective in couples with unexplained or mild male factor infertility

Intrauterine insemination (IUI) produced similar outcomes to in vitro fertilisation (IVF) with single embryo transfer and IVF in a modified natural cycle, in subfertile couples in a randomised controlled trial.

A total of 602 couples, with mild male factor infertility or unexplained failure to conceive after 12 months' unprotected intercourse, with an unfavourable prognosis for natural conception, were recruited from 17 centres across the Netherlands.

Participants were allocated randomly to either:

- Three cycles of ovulation induction, IVF and single embryo transfer
- Six cycles of IVF with eggs harvested from a natural cycle and single embryo transfer or
- Six cycles of IUI with controlled ovulation induction using either gonadotrophins or clomiphene.

Careful ultrasound monitoring of follicle development allowed a cycle to be abandoned if the risk of multiple pregnancy was high. Adherence to a single embryo transfer policy, to reduce fetal and maternal morbidity, was strictly followed unless embryo quality was not ideal.

The principal end point was the birth of a healthy child, defined as a normal birthweight, normally formed child at term. A total of 104 couples (52%) had a healthy baby following IVF with single embryo transfer, 83 (43%) after IVF in a modified cycle and 97 (47%) after IUI with controlled ovarian hyperstimulation.

The relative risk (RR), compared with IUI for IVF with single embryo transfer was 1.10 (95% CI:0.91-1.34) and for IVF in a modified natural cycle RR 0.91 (95% CI:0.73-1.14). The 95% confidence intervals do not extend beyond the threshold for non-inferiority. Other outcomes were also similar accross the three groups see table 1, below.

Two years ago NICE recommended that IUI should not be routinely offered to couples with unexplained or mild male factor subfertility.[1]

This well organised trial, which reflected real clinical practice, could not conclude that controlled stimulated cycle IUI was less effective than the two IVF protocols. This is important because the financial, physical and emotional costs, i.e. the burden of treatment of IVF are significant. Stimulated IUI therapy is less burdensome and less expensive than IVF/embryo transfer. Should its place in couples with unexplained or mild male factor subfertility be reconsidered?

The study authors conclude: 'In view of these results, there seems no reason to abandon intrauterine insemination with controlled ovarian hyperstimulation as a first-line treatment of couples with unexplained or mild male subfertility and an unfavourable prognosis for natural conception.'

DR CHRIS BARCLAY

● **Bensdorp AJ, Tjon-Kon-Fat RI, Bossuyt PMM et al. Prevention of multiple pregnancies in couples with unexplained or mild male subfertility: randomised controlled trial of in vitro fertilisation with single embryo transfer or in vitro fertilisation in modified natural cycle compared with intrauterine insemination with controlled ovarian hyperstimulation. *BMJ* 2015;305:g7771**

REFERENCE

1 National Institute for Health and Care Excellence. CG156. Fertility. Assessment and treatment for people with fertility problems. NICE. London. 2013 www.nice.org.uk/guidance/cg156/ifp/chapter/intrauterine-insemination

»

Table 1

Intrauterine insemination vs in vitro fertilisation in couples with male factor or unexplained infertility

	Ovulation induction & IVF	Natural cycle ovulation & IVF	Ovulation induction & IUI
No. of couples	201	194	207
Treatment cycles	459	677	822
Additional ICSI cycles	5	45	85
Additional IUI cycles	45	61	31
Healthy child (%)	104 (52%)	83 (43%)	97 (47%)
Live birth (%)	118 (59%)	99 (51%)	116 (56%)
Multiple pregnancy (%)	7 (6%)	5 (5%)	8 (7%)
Time to pregnancy (months)	8.04	8.32	8.39

IVF = in vitro fertilisation; IUI = intrauterine insemination; ICSI = intracytoplasmic sperm injection