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**Comparison of two embryo culture media :
 a randomized study using
 sibling oocytes**

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Disclosure

The authors have no commercial relationships or other conflicts
 of interest to declare

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1. Aim
 To compare the effect of two different culture media on the embryo utilization rate
 on day2/day 3.



2. Population
 Inclusion criteria:

- consecutive women not older than 36 years old
- ≥ 10 cumulus oocyte complexes
- ICSI
- ejaculated sperm

 Exclusion criteria :

- women older than 36 years
- < 10 cumulus oocyte complexes
- IVF
- extreme OAT and surgically retrieved sperm



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3. Study design

- study was set up as a non-inferiority study
- difference of 10% between two procedures, power 90% and 5% level of significance (425 embryos in both groups)
- a randomized sibling-oocyte trial to compare two different media, defined as Cook Cleavage medium (Cook, Australia) and G¹-version 3 (Vitrolife, Sweden)
- randomization was done at moment of pick-up, COCs were allocated to two separate oocyte collection dishes
- primary endpoint : embryo utilization rate (transferred + frozen)
- embryos were cultured for 48 or 72 hours before transfer
- best quality embryos were selected for transfer based on morphology, regardless the type of media used

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4. Statistics



Fertilization rate and embryo utilization rate were analysed by Fisher's exact test. Statistical significance was set at $p < 0.05$

5. Results

Patients 57
Cumulus oocyte complexes (COCs) 1002
Mean number oocytes (mean ± SD) 17.6 ± 8.5
Mean female age(years) (mean ± SD) 30.8 ± 3.4

	Cook	Vitrolife	Mixed	
# COCs	501	501	-	
# MII	434	430	-	
# 2PN	345 (79.5%)	323 (75.1%)	-	NS
# embryos	339	318	-	
# embryos frozen +ET	197 (58.1%)	175 (55.0%)	-	NS
# embryo transfers	24	22	11	
# pos hCG	7	9	3	

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6. Conclusion

Within the limits of this study we can conclude that there is no difference in embryo utilization rate between Cook Cleavage and Vitrolife medium

Although the use of sibling oocytes is the best methodology to compare embryo morphology between two culture media, the clinical relevance of the ability for culture media to produce higher quality embryos is debatable and can only be analysed by a per-patient randomized clinical trial on a large serie

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