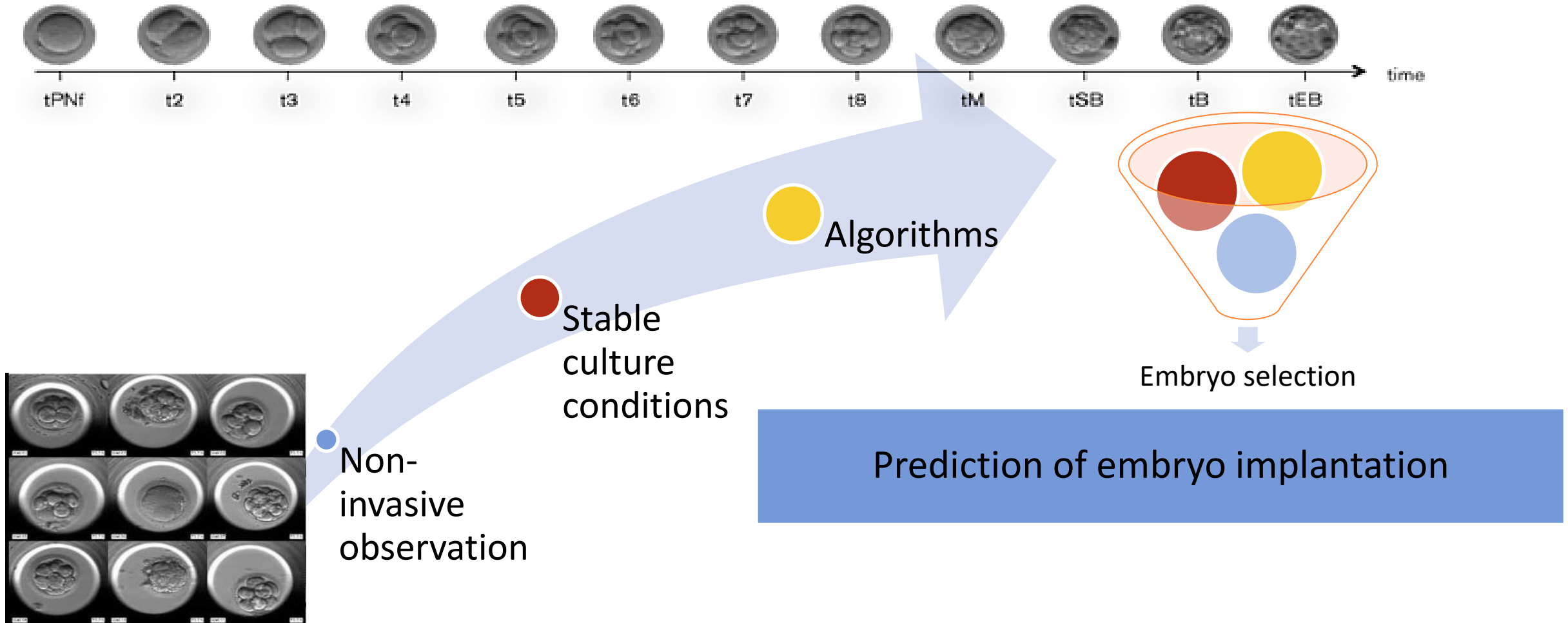


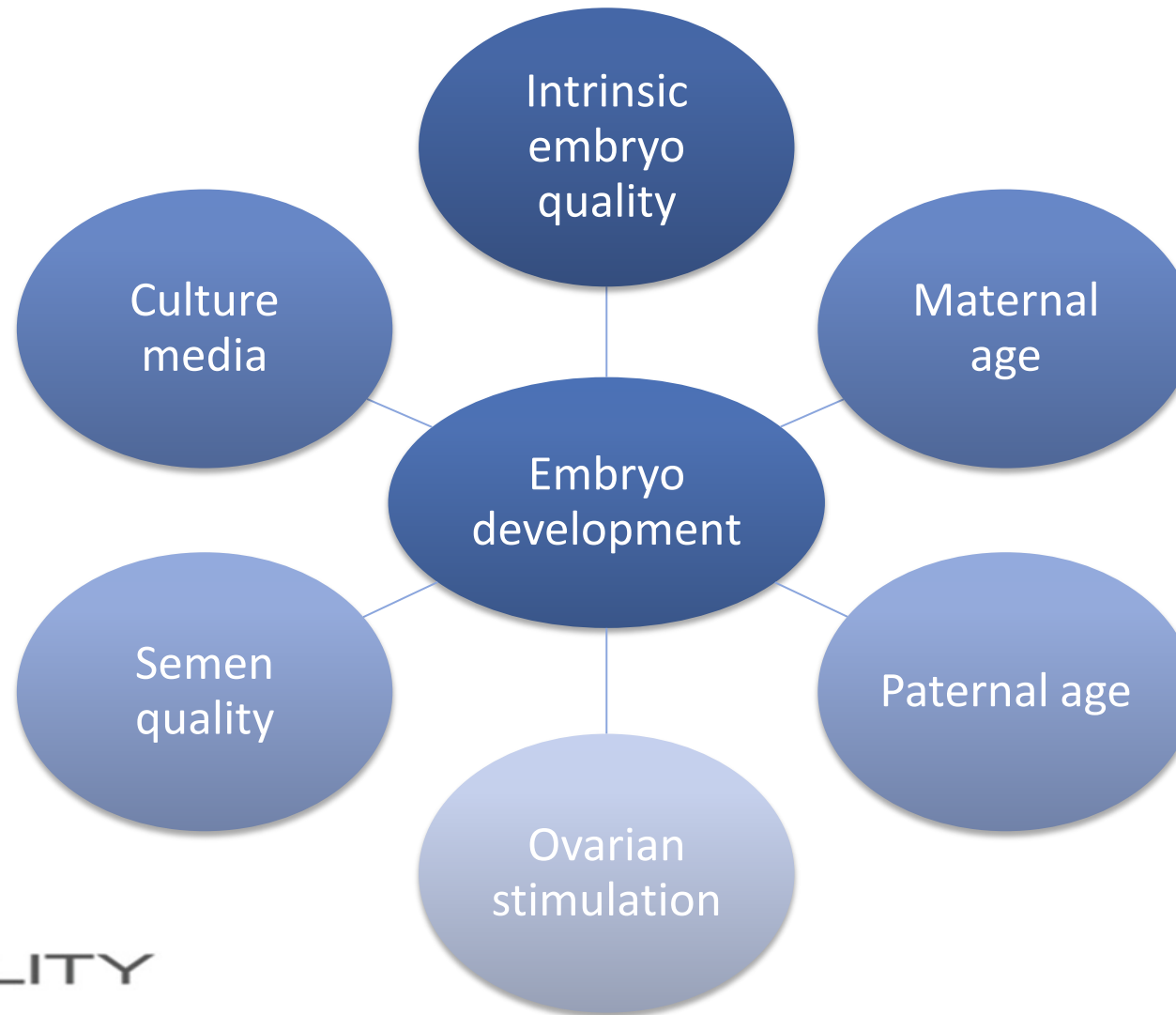
PATERNAL CONTRIBUTION TO EMBRYO MORPHOKINETICS IN A TIME-LAPSE INCUBATOR SYSTEM

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INTRODUCTION



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ORIGINAL ARTICLE

WILEY **andROLOGIA** First International Journal of Andrology

Check for updates

Influence of human sperm origin, testicular or ejaculated, on

human reproduction **ORIGINAL ARTICLE Embryology**

The impact of male factor infertility on early and late morphokinetic parameters: a retrospective analysis of

ORIGINAL ARTICLE **andROLOGIA** WILEY First International Journal of Andrology

IMSI procedure improves clinical outcomes and embryo morphokinetics in patients with different aetiologies of male infertility

Esmat M. Mehrdad

Studies Paternal factors Morphokinetic events Scarce

OBJECTIVE

To investigate the impact of paternal age and semen quality on embryo morphokinetics events in a TL-imaging incubator

MATERIAL AND METHODS

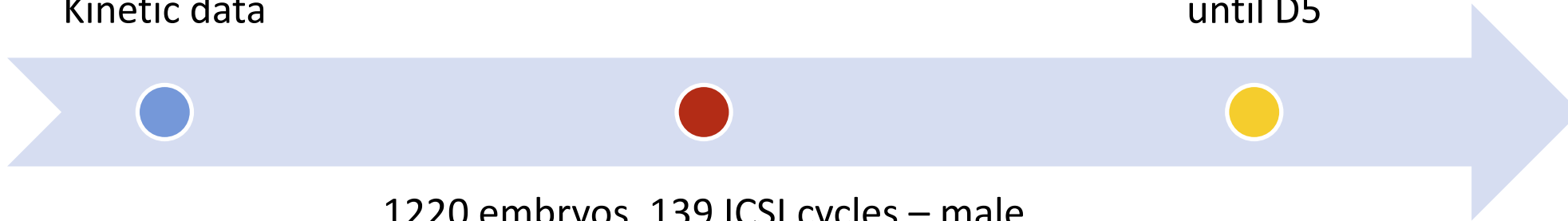
Cross-
section

Private-university affiliated IVF center

Mar-Nov/19

Kinetic data

TLI incubator
until D5



1220 embryos, 139 ICSI cycles – male
factor infertility

MATERIAL AND METHODS

Embryo culture and Kinetic markers

Injected oocytes cultured until D5

TL-monitored incubator (EmbryoScope+)

11 focal planes, every 10'

tPNa and tPNf

t2, t3, t4, t5, t6, t7, t8 and tB

Durations of cell cycles cc2 (t3-t2) and cc3 (t5-t3)

Timing to complete synchronous divisions s1 (t2-tPNf), s2 (t4-t3), and s3 (t8-t5)

MATERIAL AND METHODS

Data analysis Multivariate regression analysis, adjusted for maternal age

Semen parameters, EA length and male age: independent

Kinetic markers: dependent

For clinical outcomes, Generalized linear model (GZLM),
adjusted for maternal age (IR and CPR: dependent)

Regression coefficient (B) or exponentiation of B (ExpB) with
95% CI, and p-value (<0.05)

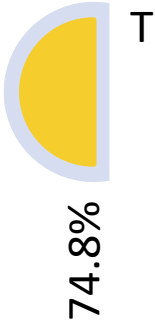
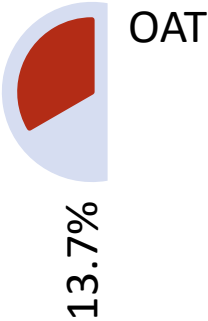
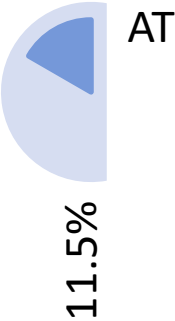


RESULTS

Variable	Mean $\pm$ SD
Female age (years)	37.7 $\pm$ 3.8
Female BMI	24.7 $\pm$ 4.0

RESULTS

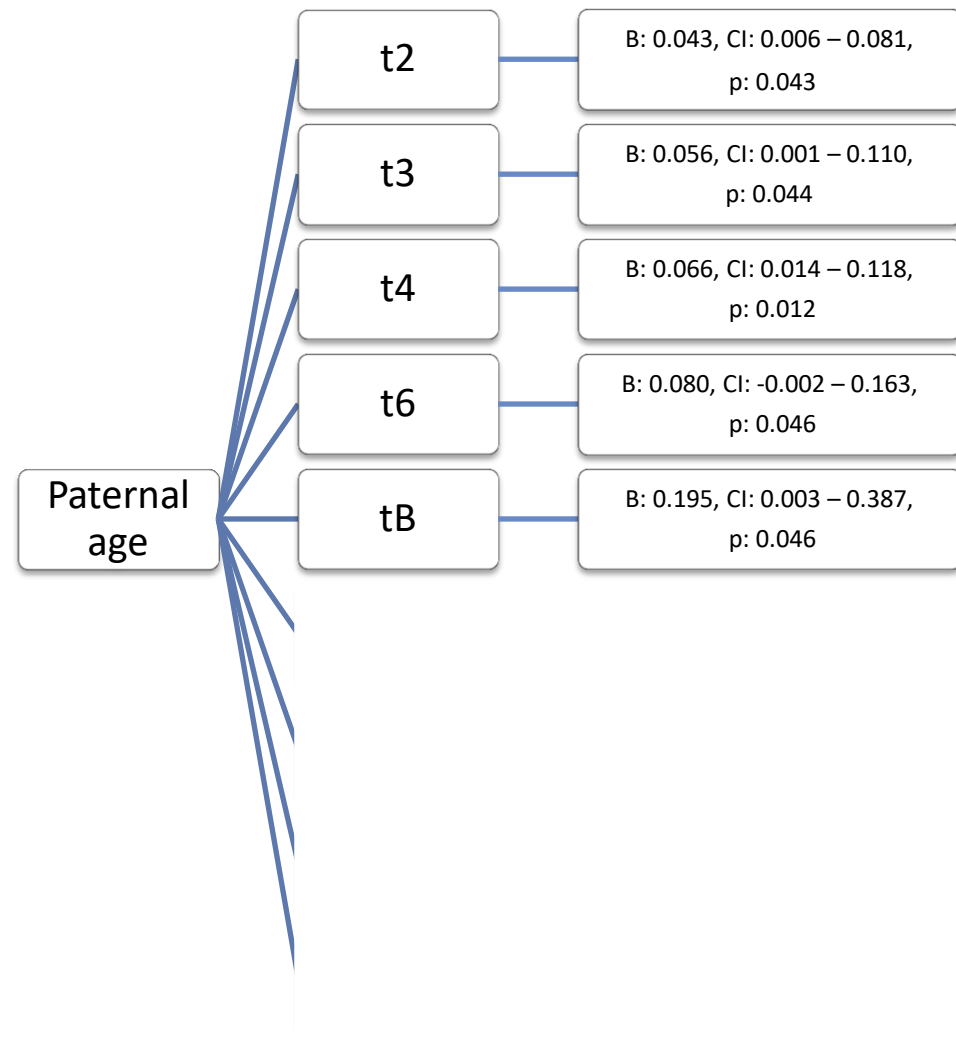
Variable	Mean ± SD
Semen analysis	
Male age (years)	41.3 ± 6.8
Ejaculatory abstinence length (days)	3.2 ± 2.5



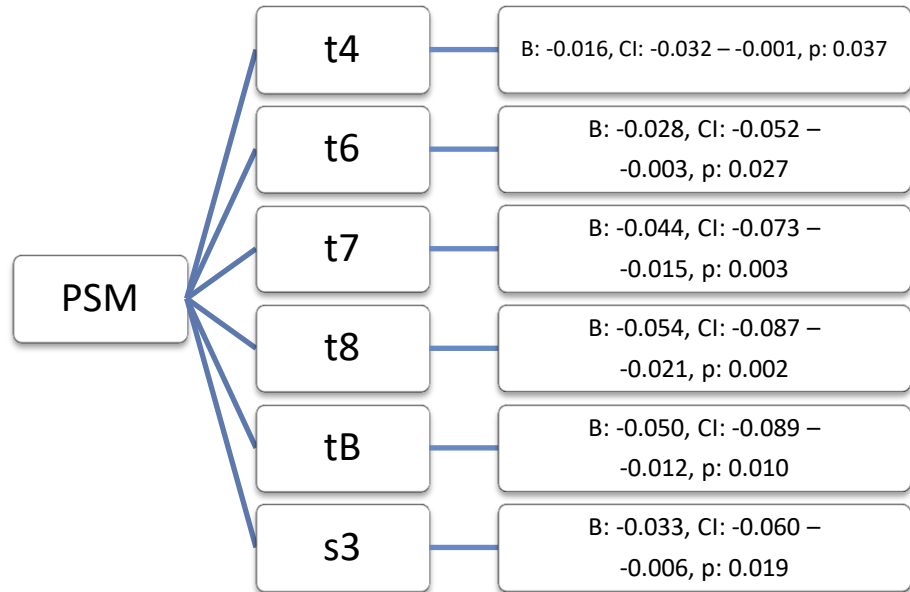
RESULTS

Variable	Mean ± SD
ICSI outcomes	
Fertilization rate (%)	75.8
Blastocyst development (%)	64.4
Transferred embryos (n)	1.3 ± 0.5
Endometrial thickness (mm)	8.3 ± 4.4
Implantation rate (%)	24.4 ± 56.0
Pregnancy rate (%)	24.0
Miscarriage rate (%)	0.0

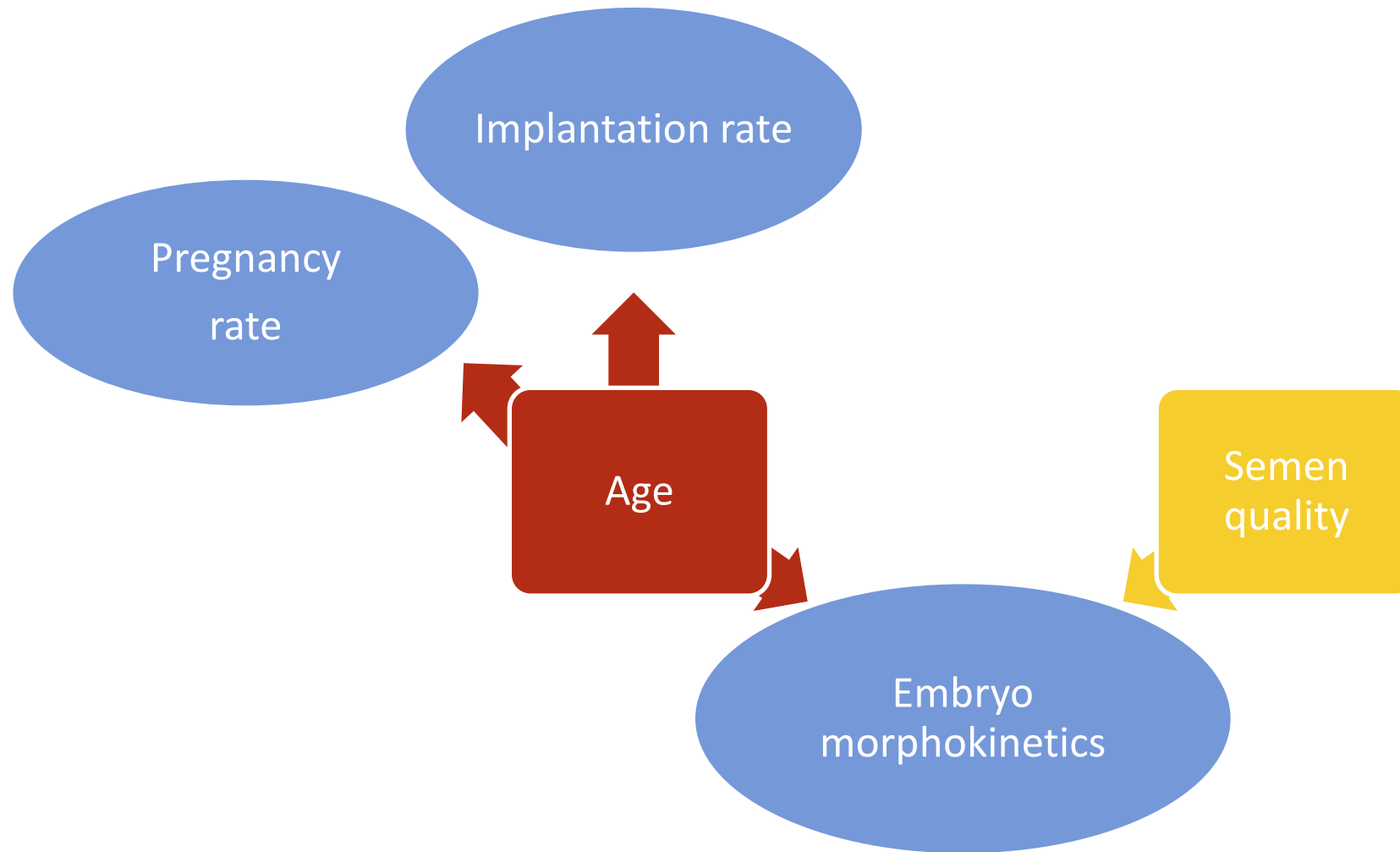
RESULTS



RESULTS



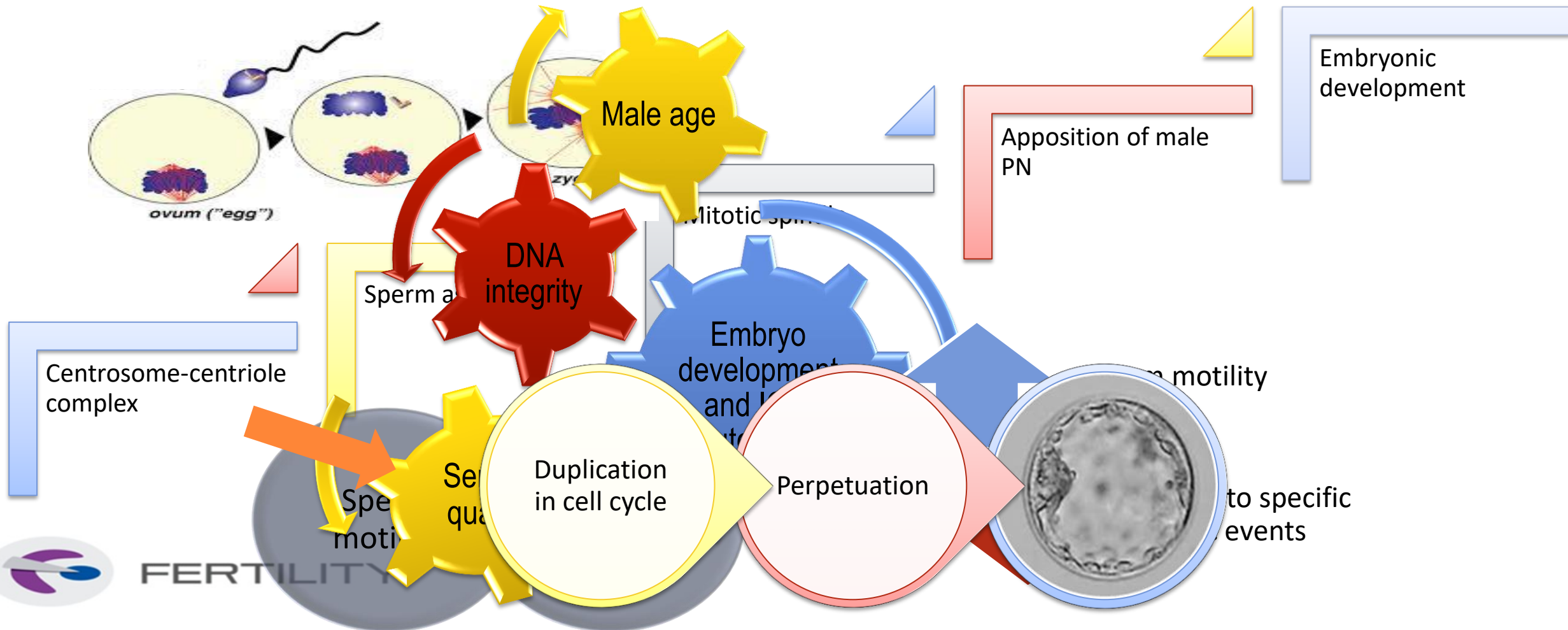
COMMENTS



COMMENTS

Previous findings

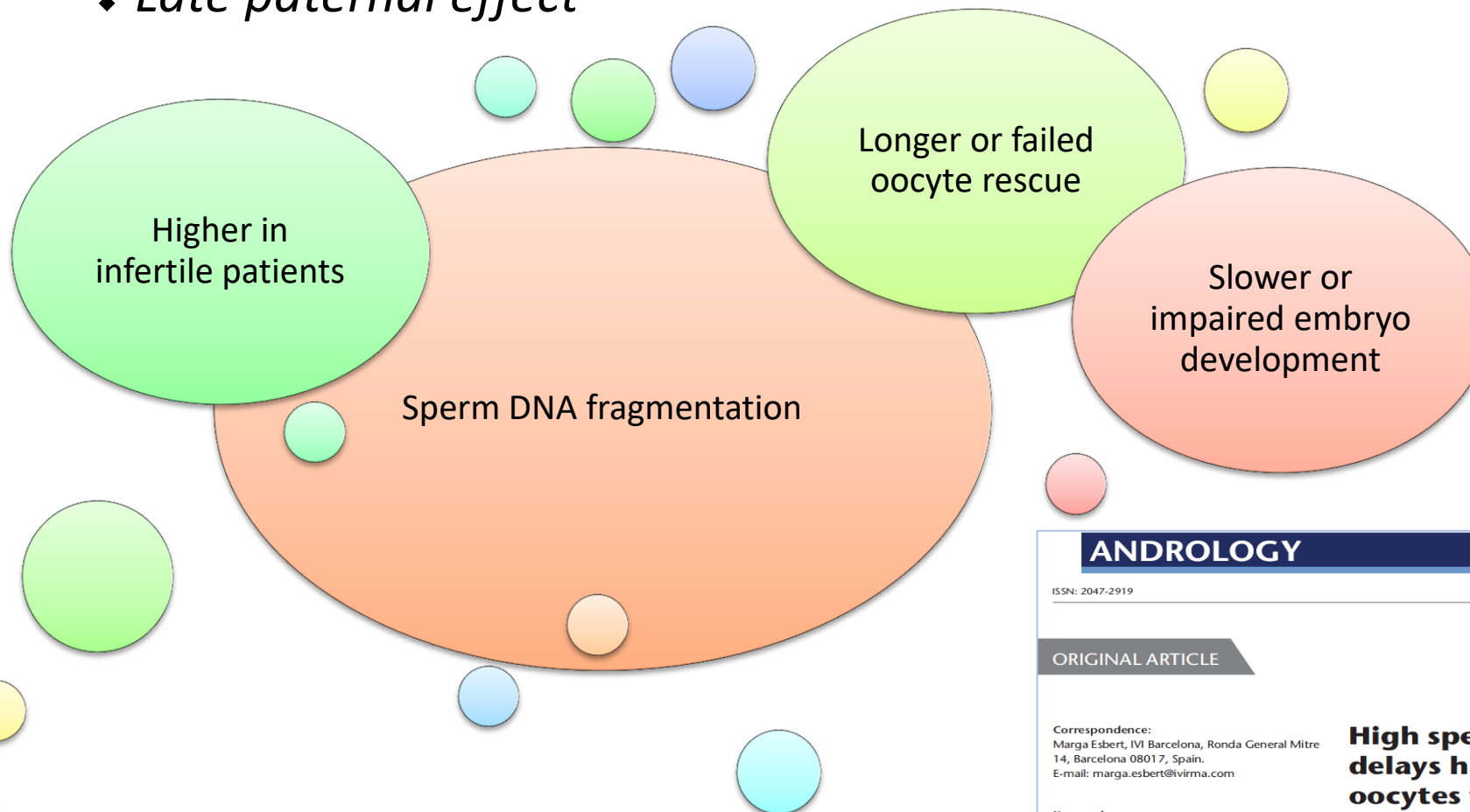
❖ *Early paternal effect*



COMMENTS

Previous findings

❖ *Late paternal effect*



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ORIGINAL ARTICLE

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embryo kinetics, EmbryoScope, oocytes, sperm
DNA fragmentation, sperm DNA damage,
spermatozoa, time-lapse, TUNEL assay

Received: 13-Nov-2017
Revised: 6-Aug-2018

**High sperm DNA fragmentation
delays human embryo kinetics when
oocytes from young and healthy
donors are microinjected**

¹M. Esbert, ²A. Pacheco, ³S. R. Soares, ¹D. Amorós, ¹M. Florensa,
¹A. Ballesteros and ⁴M. Meseguer

FERTILITY



CONCLUSIONS

Increasing paternal age and EA, and poor semen quality correlate with delayed cell cleavage and blastulation;

Increasing paternal age and EA reduce the implantation rate;

Increasing paternal age reduce the pregnancy chance in couples undergoing ICSI as a result of male factor of infertility

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