Signos del potencial de auto-reparación embrionaria en el laboratorio de FIV

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INSTITUT MARQUÈS

Introducción

35th ANNUAL MEETING
European Society of Human Reproduction and Embryology
Vienna – Austria
23 to 26 June 2019

O- 117: Impact of reverse cleavage on in vitro development and reproductive potential of human embryos

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Reverse Cleavage as a signal of the human embryo self-correction potential Article submitted for publication

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33rd ANNUAL MEETING
European Society of Human Reproduction and Embryology
Geneva – Switzerland
2 to 5 July 2017
eshre

P-196: When multinucleated embryos create high quality blastocysts they have a high implantation rate

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O-233: Direct cleavage in late stages of embryo progession does not affect in vitro development, ploidy nor the reproductive potential of human embryos

J. Masso Hernaez[1], S. Novo[1], V. Moens[1], À. García-Faura[1], B. Marquès[1], F. García[1], C. Castelló[1], M. López-Teijón[1].
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Introducción

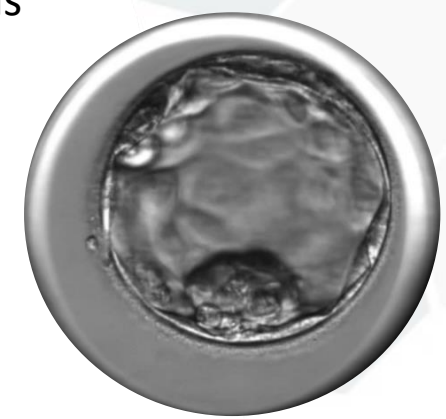
Eventos de mal pronóstico durante el desarrollo embrionario in vitro

Fragmentación

Asimetría en blastómeras

División reversa

División directa



Colapso del blastocisto

Multinucleación

Introducción

Blastomere multinucleation: Contributing factors and effects on embryo development and clinical outcome

RITA DE CÁSSIA SAVIO FIGUEIRA[1,2], AMANDA SOUZA SETTI[2], DANIELA PAES DE ALMEIDA FERREIRA BRAGA[1,2], ASSUMPTO IACONELLI JR.[1], & EDSON BORGES JR.[1,2]

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Developmental capacity and implantation potential of the embryos with multinucleated blastomeres

Akiyoshi EGASHIRA[1)], Nobuhiko YAMAUCHI[2)], Keiko TANAKA[1)], Chihiro MINE[1)], Hitomi OTSUBO[1)], Masao MURAKAMI[1)], Md. Rashedul ISLAM[2, 3)], Misako OHTSUKA[1)], Naomi YOSHIOKA[1)] and Takashi KURAMOTO[1)]

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[3)]*Department of Genetics and Animal Breeding, Hajee Mohammad Danesh Science and Technology University, Dinajpur-5200, Bangladesh*

Frequency of embryo multinucleation detected by time-lapse system and its impact on pregnancy outcome

Elif G. Ergin, M.D., Eray Çalişkan, M.D., Ender Yalçinkaya, M.Sc., Zeynep Öztel, B.Sc., Kevser Çökelez, B.Sc., Alev Özay, M.D., and Hakan M. Özörnek, M.D.

Eurofertil IVF Center, Istanbul, Turkey

The impact of multinucleated blastomeres on embryo developmental competence, morphokinetics, and aneuploidy

Hanna Balakier, Ph.D.,[a] Agata Sojecki, M.Sc.,[a] Gelareh Motamedi, M.Sc.,[a] and Clifford Librach, M.D.[a,b,c,d]

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Study of nucleation status in the second cell cycle of human embryo and its impact on implantation rate

Jesus Aguilar, Ph.D.,[a] Irene Rubio, Ph.D.,[b] Elkin Muñoz, M.D., Ph.D.,[a] Antonio Pellicer, M.D., Ph.D.,[b] and Marcos Meseguer, Ph.D.[b]

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Impact of the presence of one or more multinucleated blastomeres on the developmental potential of the embryo to the blastocyst stage

YAKIN, K., BALABAN, B., & URMAN, B. (2005)

Is the nuclear status of an embryo an independent factor to predict its ability to develop to term?

Patricia Fauque, M.D., Ph.D.,[a] Etienne Audureau, M.D., Ph.D.,[b] Roger Leandri, M.D., Ph.D.,[c] Lucie Delaroche, M.D.,[d] Stéphanie Assouline, M.D.,[f] Sylvie Epelboin, M.D.,[e] Pierre Jouannet, M.D.,[f] and Catherine Patrat, M.D., Ph.D.[d]

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INTRODUCCIÓN

institut marquès 100th Anniversary

Direct Unequal Cleavages: Embryo Developmental Competence, Genetic Constitution and Clinical Outcome

Qiansheng Zhan, Zhen Ye, Robert Clarke, Zev Rosenwaks, Nikica Zaninovic*

Ronald O. Perelman and Claudia Cohen Center for Reproductive Medicine, Weill Cornell Medicine, New York, New York, United States of America

Are cleavage anomalies, multinucleation, or specific cell cycle kinetics observed with time-lapse imaging predictive of embryo developmental capacity or ploidy?

Nina Desai, Ph.D., H.C.L.D., Jeffrey M. Goldberg, M.D., Cynthia Austin, M.D., and Tommaso Falcone, M.D.

Cleveland Clinic, Department of Obstetrics and Gynecology, Division of Reproductive Endocrinology and Infertility, Beachwood, Ohio

Embryos with morphokin develop into euploid blast

C Lagalla [a], N Tarozzi [a], R Sciajno [a] V Distratis [a], A Borini [a,]*

[a] *9.Baby Center for Reproductive H*

[b] *Reprogenetics UK, Institute of Re*

[c] *Nuffield Department of Obstetrics*

Atypical embryo ph identified by time-l high prevalence an embryo developme

Kelly Athayde Wirka, M.S.,[a] Alice A. Chen, Ph.D.,[a] Joe Conaghan, Ph.D.,[b] Kristen Ivani, Ph.D.,[c] Marina Gvakharia, M.D., Ph.D.,[d] Barry Behr, Ph.D.,[e] Vaishali Suraj, M.S.,[a] Lei Tan, Ph.D.,[a] and Shehua Shen, M.D.[a]

[a] Auxogyn, Menlo Park; [b] Pacific Fertility Center, San Francisco; [c] Reproductive Science Center of the Bay Area, Sa [d] Fertility Physicians of Northern California, Palo Alto Medical Foundation, San Jose; and [e] Stanford Fe Reproductive Medicine Center, Palo Alto, California

Limited implantation success of direct-cleaved human zygotes: a time-lapse study

Irene Rubio, Ph.D.,[a] Reidun Kuhlmann,[b] Inge Agerholm, Ph.D.,[c] John Kirk, M.D.,[b] Javier Herrero, Ph.D.,[a] María-José Escribá, Ph.D.,[a] José Bellver, Ph.D.,[a] and Marcos Meseguer, Ph.D.[a]

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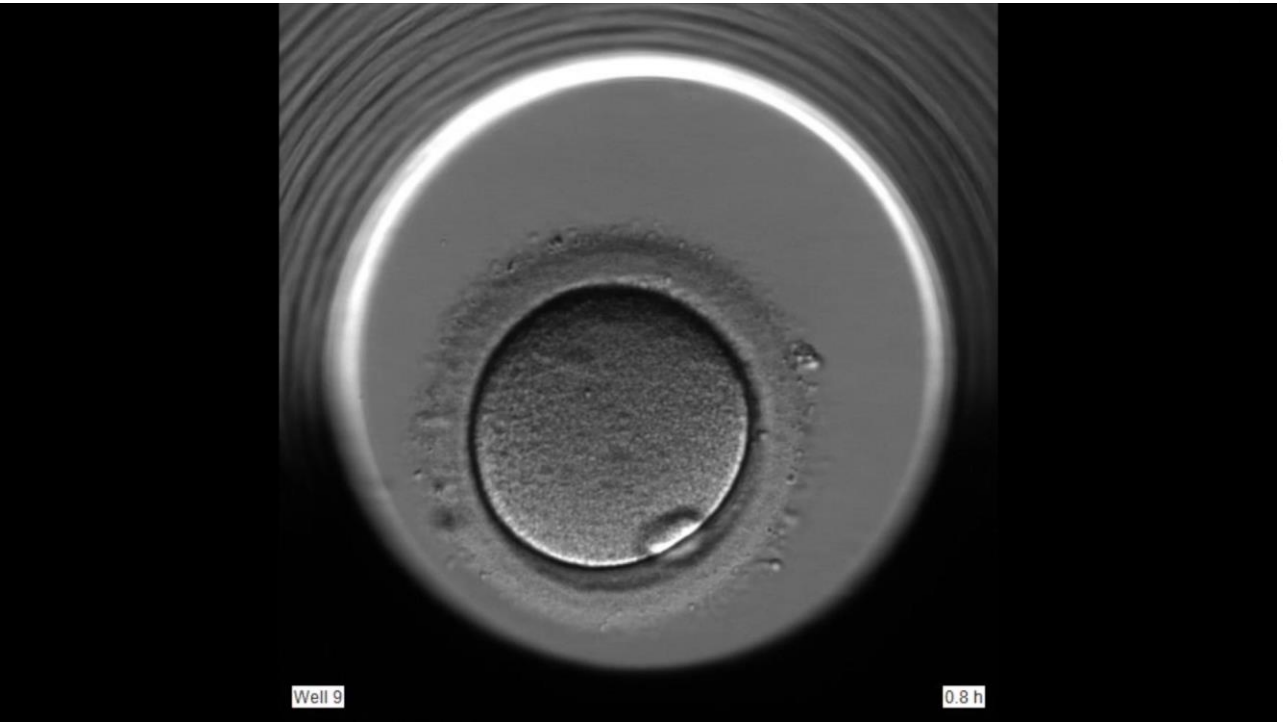
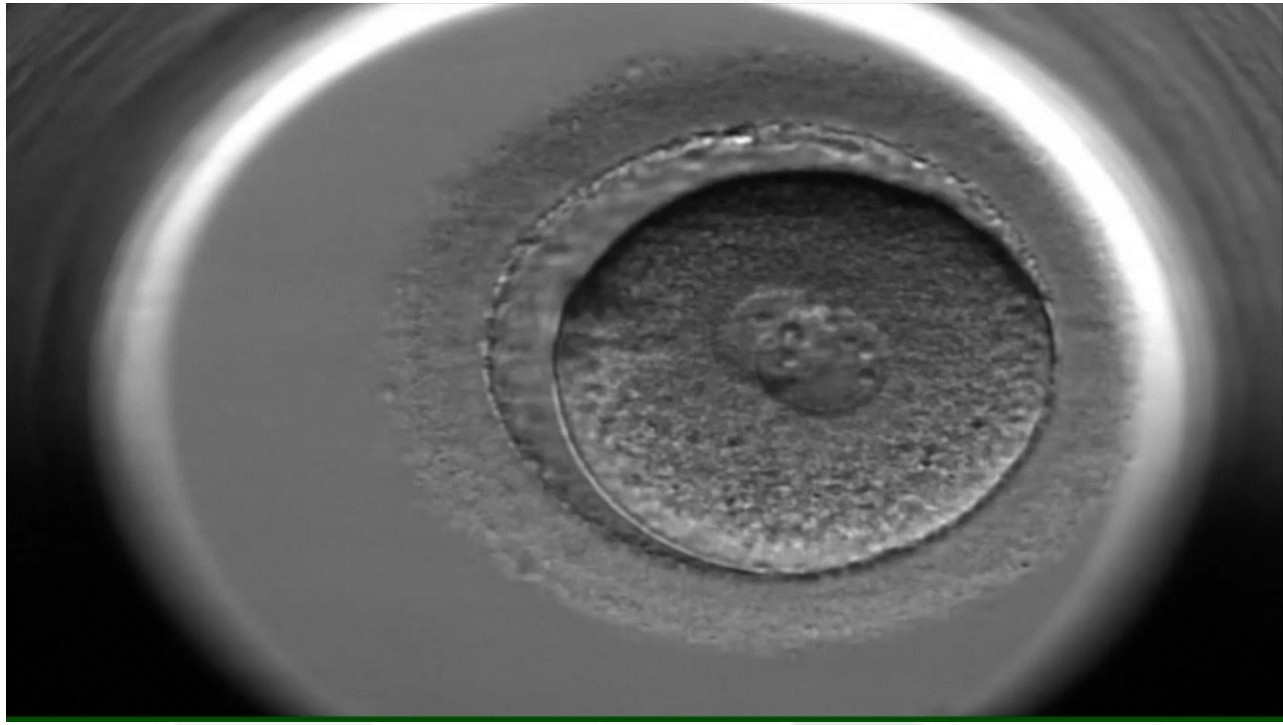
INTRODUCCIÓN

MULTINUCLEACIÓN



DIVISIÓN REVERSA



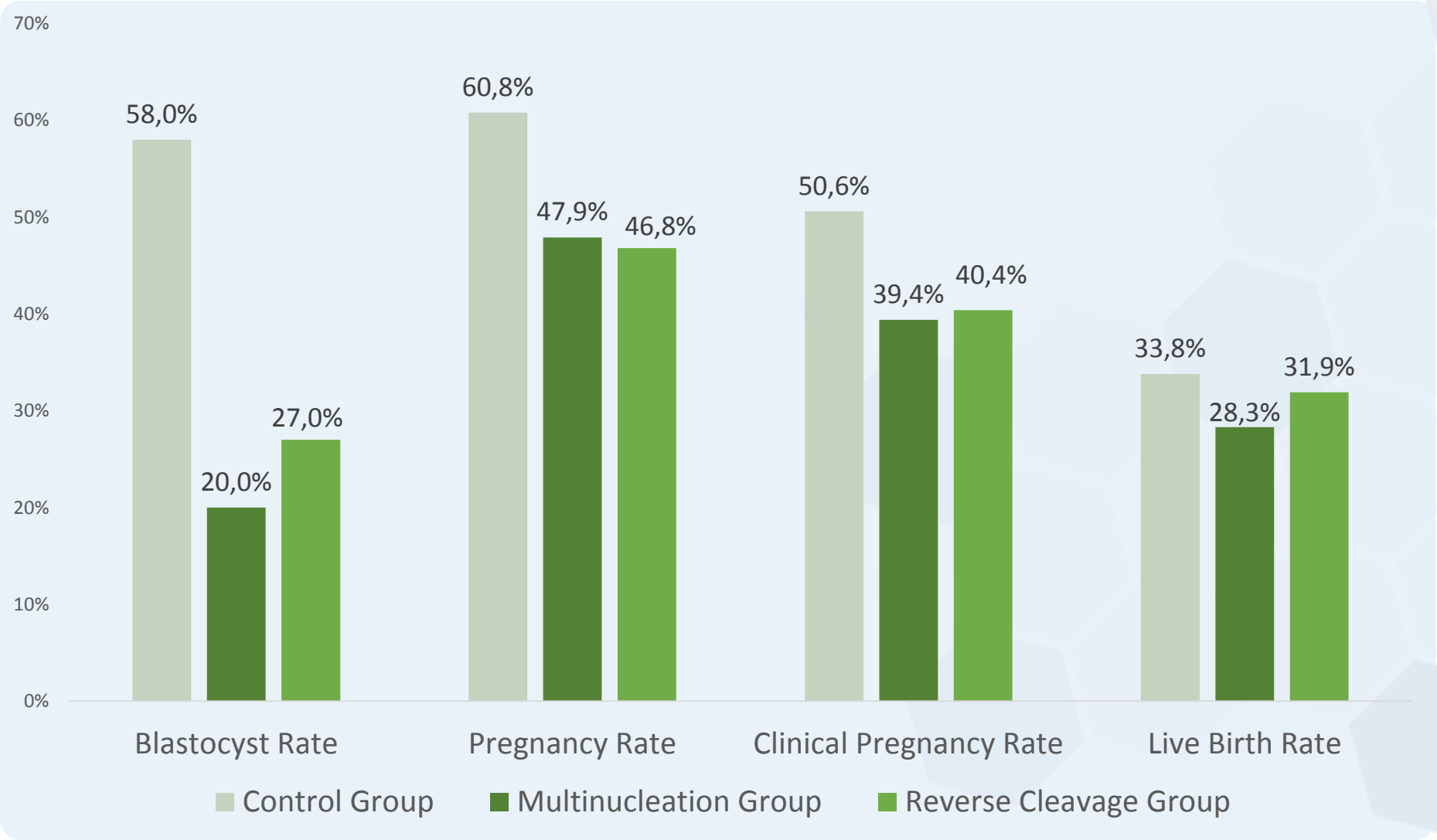
Material y Métodos

Estudio retrospectivo

21.184 embriones
(3.577 tratamientos)

Grupo control (GC) (no multinucleación ni división reversa)	Multinucleados (MNC)	División reversa (RC)
N: 16.897 79,8%	N: 3.789 17,9%	N: 498 2,3%

Resultados


70%
60%
50%
40%
30%
20%
10%
0%
58,0%
20,0%
27,0%
60,8%
47,9%
46,8%
50,6%
39,4%
40,4%
33,8%
28,3%
31,9%
Blastocyst Rate
Pregnancy Rate
Clinical Pregnancy Rate
Live Birth Rate
Control Group
Multinucleation Group
Reverse Cleavage Group

Conclusiones

- Si un embrión es capaz de desarrollarse en un blastocisto de buena calidad, puede que haya conseguido resolver las divisiones anómalas que haya podido sufrir.
- Un blastocisto de buena calidad tiene un resultado reproductivo similar independientemente de si ha presentado una división reversa o una multinucleación.
- Se puede pensar en que los embriones dispongan de un mecanismo de detección y autocorrección.
- Necesidad de reevaluar eventos embrionarios considerados de mal pronóstico.

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