Euploidia x Dose FSH

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Fertility Medical Group

Instituto Sapientiae

FERTILITY

DELARO:

Ausência de Conflito de Interesse

Resolução do Conselho Federal de Medicina nº 1.595/2.000

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Euploidia x Dose FSH

O que diz a literatura?

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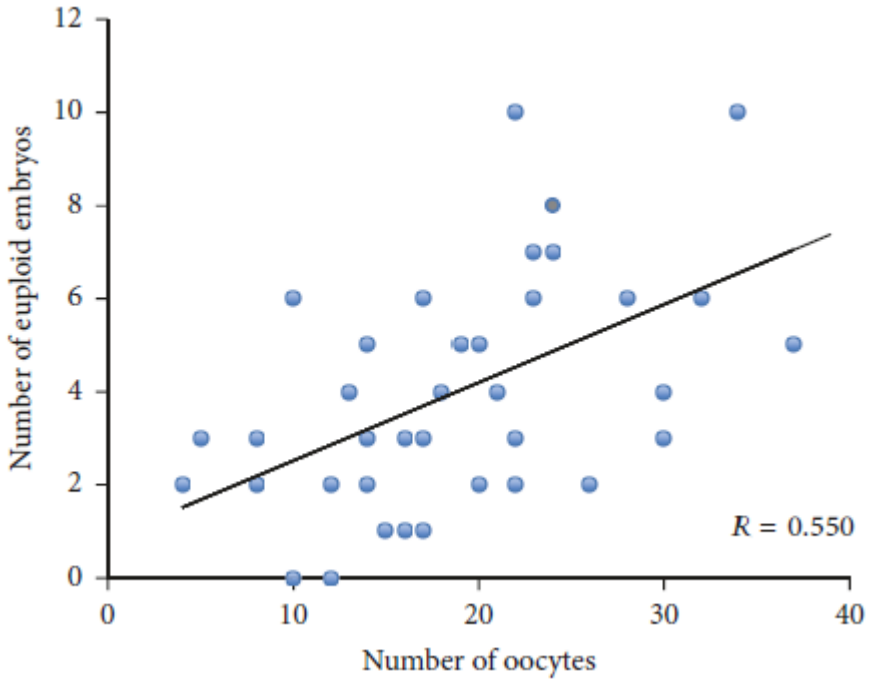
Hindawi
BioMed Research International
Volume 2017, Article ID 5637923, 8 pages
https://doi.org/10.1155/2017/5637923

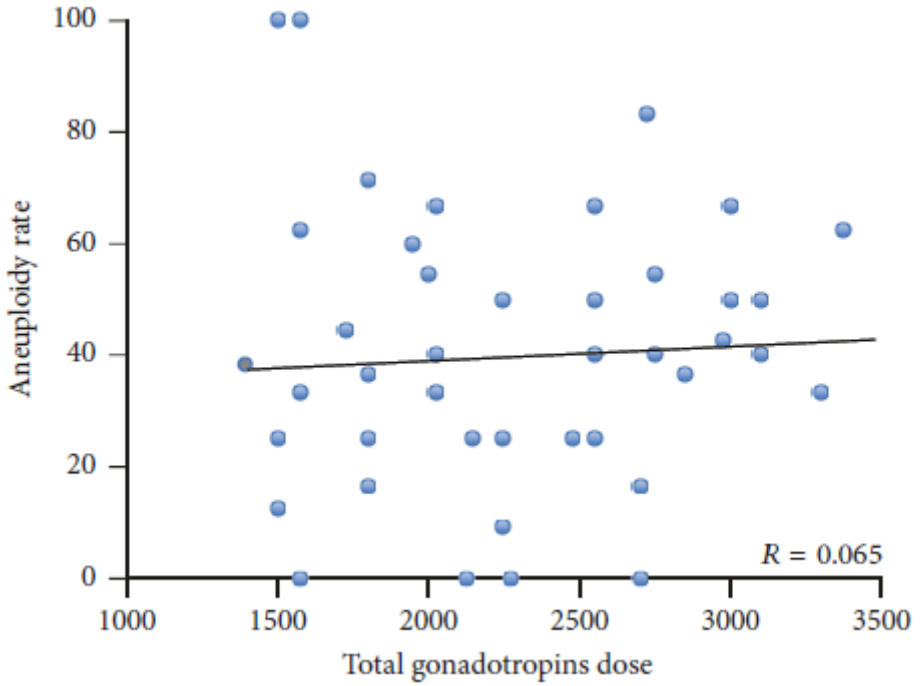
Research Article

A Higher Ovarian Response after Stimulation for IVF Is Related to a Higher Number of Euploid Embryos

Elena Labarta,[1] Ernesto Bosch,[1] Amparo Mercader,[2] Pilar Alamá,[1] Emilia Mateu,[2] and Antonio Pellicer[1]

[1]*Human Reproduction Unit, Instituto Valenciano de Infertilidad (IVI), Plaza de la Policía Local 3, 46015 Valencia, Spain*
[2]*PGD Laboratory, Instituto Valenciano de Infertilidad (IVI), Plaza de la Policía Local 3, 46015 Valencia, Spain*





Aneuploidy rate did not increase with ovarian response or gonadotropin doses

Human Reproduction, pp. 1–8, 2018
doi:10.1093/humrep/dey270

human reproduction ORIGINAL ARTICLE *Infertility*

Dosage of exogenous gonadotropins is not associated with blastocyst aneuploidy or live-birth rates in PGS cycles in Chinese women

Qianqian Wu[1,2,3,†], Hongchang Li[1,2,3,†], Yueting Zhu[1,2,3], Wenjie Jiang[1,2,3], Juanjuan Lu[1,2,3], Daimin Wei[1,2,3], Junhao Yan[1,2,3,*], and Zi-Jiang Chen[1,2,3,4,5]

- In the group of younger women (<35 y.o., 537 PGS cycles), the incidence of aneuploidy ranged from 36.9 to 43.4% when data was stratified by gonadotropins dose. After adjusting for confounding factors, *the dose of exogenous gonadotropins was not associated with the blastocyst aneuploidy rate;*

- Similar results were shown in the group of women with advanced maternal age (≥35 y.o., 551 PGS cycles), with *no difference in the rate of blastocyst aneuploidy among different gonadotropins dose groups* (<1500 IU, 58.0%; 1500–3000 IU, 59.8%; and >3000 IU, 59.8%; P = 0.86).

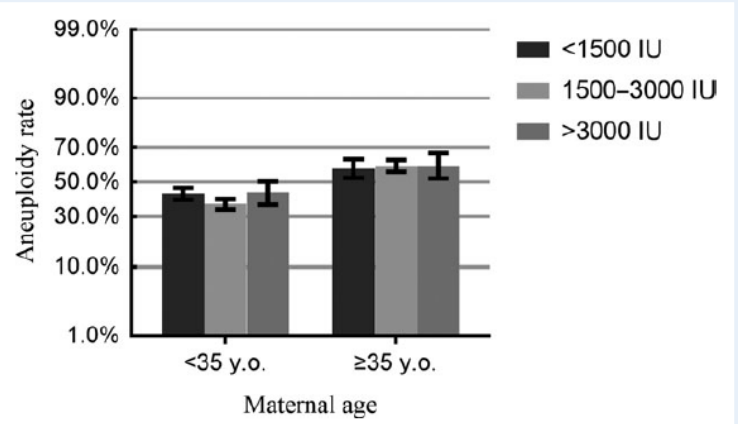


Figure 1 Association between gonadotropins dosage and aneuploidy rates. Based on the numbers before adjustment for confounding factors.

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High Gonadotropin Dosage Does Not Affect Euploidy and Pregnancy Rates in IVF PGS Cycles With Single Embryo Transfer

Oleksii O. Barash, Mary D. Hinckley, Evan M. Rosenbluth, Kristen A. Ivani, and Louis N. Weckstein

Reproductive Science Center of the San Francisco Bay Area, San Ramon, CA

Hum Reprod 2017;32:2209–2217

- No significant difference was found in euploidy *rates regardless of the total dosage of gonadotropins used* or the number of eggs retrieved.
- *In patients younger than 35 years* (187 IVF cycles), euploidy rates ranged from 62.3% (when <3000 IU was used in the IVF cycle) to 67.5% (when >5000 IU was used in the IVF cycle; odds ratio [OR], 0.862; 95% confidence interval [CI], 0.687–1.082; P = 0.2).
- Similar data were obtained in patients of *advanced maternal age* (≥41 years of age, 189 IVF cycles).When this age group was analyzed by total dosage of gonadotropins used in the IVF cycle, euploidy rates ranged from 30.7% to 26.4% *(OR, 0.811; 95% CI, 0.452–1.454; P = 0.481)*

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Human Reproduction, Vol.35, No.5, pp. 1082–1089, 2020
Advance Access Publication on April 29, 2020 doi:10.1093/humrep/deaa028

human reproduction **ORIGINAL ARTICLE** ***Infertility***

No effect of ovarian stimulation and oocyte yield on euploidy and live birth rates: an analysis of 12 298 trophectoderm biopsies

M. Irani[1,*], C. Canon[2], A. Robles[2], B. Maddy[3], V. Gunnala[1], X. Qin[1], C. Zhang[1], K. Xu[1], and Z. Rosenwaks[1]

[1]The Ronald O. Perelman and Claudia Cohen Center for Reproductive Medicine, Weill Cornell Medicine, New York, NY 10021, USA, [2]Obstetrics and Gynecology, New York Presbyterian/Weill Cornell Medicine, New York, NY 10021, USA, [3]Weill Cornell Medicine, New York, NY 10021, USA

- Within the same age group, ***both euploidy rates and LBRs were comparable between cycles regardless of their differences in total gonadotropin dosage, duration of stimulation,*** number of oocytes harvested, size of the largest follicles or peak estradiol levels.

- ***In the youngest group***, (<35 years, *n*=3469 embryos), ***euploidy rates were comparable between cycles with various total gonadotropin dosages (55.6% for <4000 IU, 52.9% for 4000–6000 IU and 62.3% for >6000 IU; P=0.3***

- Similarly, ***in the oldest group*** (>42 years, *n*=1157 embryos), ***euploidy rates ranged from 8.7% for gonadotropins <4000 IU to 5.1% for gonadotropins >6000 IU (P=0.3)***

J Assist Reprod Genet
DOI 10.1007/s10815-017-0909-3

ASSISTED REPRODUCTION TECHNOLOGIES

The cumulative dose of gonadotropins used for controlled ovarian stimulation does not influence the odds of embryonic aneuploidy in patients with normal ovarian response

Lucky Sekhon[1,2] · Kathryn Shaia[1] · Anthony Santistevan[3] · Karen Hunter Cohn[3] · Joseph A. Lee[2] · Piraye Yurttas Beim[3] · Alan B. Copperman[1,2]

Received: 11 November 2016 / Accepted: 8 March 2017

- The degree of exposure to exogenous gonadotropins *did not significantly modify the likelihood of aneuploidy in patients with a normal ovarian response to stimulation* (not requiring COH beyond cycle day 12).
- Patients *requiring prolonged COH were demonstrated to have elevated odds of aneuploidy* with increasing cumulative gonadotropin dose.

This finding may reflect an increased tendency towards oocyte and embryonic aneuploidy in patients with a diminished response to gonadotropin stimulation

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SYSTEMS BIOLOGY IN REPRODUCTIVE MEDICINE
2021, VOL. 67, NO. 1, 42–49
https://doi.org/10.1080/19396368.2020.1850908

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CLINICAL: RESEARCH COMMUNICATION

Effect of ovarian stimulation on embryo aneuploidy and mosaicism rate

Alba Cascales[a], Belen Lledó[a], Jose A. Ortiz[a], Ruth Morales[a], Jorge Ten[b], Joaquin Llácer[c], and Rafael Bernabeu[c]

[a]Molecular Biology Department, Instituto Bernabeu, Alicante, Spain; [b]Reproductive Biology, Instituto Bernabeu, Alicante, Spain; [c]Reproductive Medicine, Instituto Bernabeu, Alicante, Spain

- The embryo aneuploidy rate showed no association with the use of oral contraceptives, type, ***total and daily doses of gonadotropins, stimulation protocol type***, and drugs used for ovulation trigger ($p > 0.05$).

- In contrast, the duration of the ovarian stimulation treatment was correlated with the aneuploidy rate: patients requiring more days of stimulation presented a lower rate of aneuploid embryos ($p = 0.015$), suggesting ***that faster recruitment could be deleterious for those reassuming meiosis, yielding more abnormal karyotype***.

None of the variables studied showed ***any association with the rate of embryo mosaicism***

JBRA Assisted Reproduction 2022;**26**(2):348-361
doi: 10.5935/1518-0557.20210069

Review

Association of ovarian stimulation and embryonic aneuploidy in *in vitro* fertilization cycles with preimplantation genetic testing: A narrative systematic review

Jorge Rodriguez-Purata[1,2], Maria Jose Gomez-Cuesta[1], Enrique Cervantes-Bravo[1,2]

[1]Clinica de la Fertilidad "CdelaF", Prolongacion Vasco de Quiroga 4001, Torre A Piso 10, Colonia Santa Fe, Cuajimalpa de Morelos, 05370, Mexico City, Mexico
[2]Centro Medico ABC, Avenida Carlos Graef Fernández 154, Colonia Santa Fe, Cuajimalpa de Morelos, 05300, Mexico City, Mexico

- To date, it has been *impossible to isolate if the gonadotropin dosage actually distresses the oocyte or if the aneuploidy* is simply a reflection of its low quality.

- If, for a moment, we assume that COS does, in fact, impact embryonic aneuploidy, what *would it be preferable to have, a lower ratio of aneuploidy or higher total number of euploid embryos?*

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GENETIC TESTING AND MOLECULAR BIOMARKERS
Volume 22, Number 10, 2018

Pp. 1–5
DOI: 10.1089/gtmb.2018.0063

Low Gonadotropin Dosage Reduces Aneuploidy in Human Preimplantation Embryos: First Clinical Study in a UAE Population

Kabir Sachdeva, Divyesh Upadhyay, Richard Discutido, Merlin Mary Varghese, Firas Albuz, Rawan Almekosh, Linda Bouhafs, Sadika Solkar, Martina Stevikova, and Braulio Peramo

- ***Gonadotropin dosage may act as a contributing factor in increasing aneuploidy incidences*** for the patients undergoing IVF cycles in the UAE population.
- This study shows that in all patient age groups, ***lower drug stimulation leads to an increasing trend in embryo euploidy.***

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RBMO

ELSEVIER

COUNTERCURRENT

Why ovarian stimulation should be aimed to maximize oocyte yield

Baris Ata[a,b,*]

CONCLUSION – THE MORE THE BETTER

Available evidence suggests that every oocyte contributes to CLBR and gonadotrophin stimulation is not harmful to follicle or oocyte reproductive potential.

FERTILITY

Descriptive analysis of Rekovelle® "real-world" experience

Edson Borges Jr. Ph.D.[a,b], Daniela Braga, Ph.D.[a,b], Patricia Guilherme, M.Sc.[a], AssumptoIaconelli Jr., MD. [a,b], Amanda Setti, M.Sc.[a,b]

[a] Fertility Medical Group, São Paulo – SP, Brazil

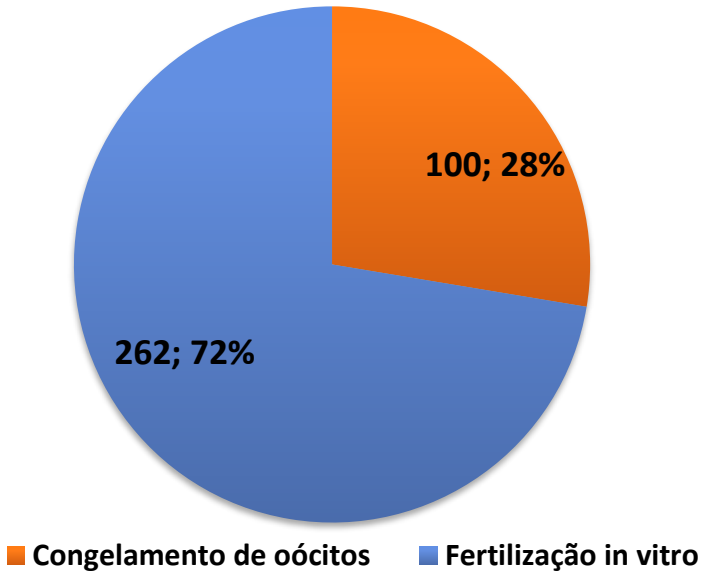
[b] Sapientiae Institute – Centro de Estudos e Pesquisa em Reprodução Humana Assistida, São Paulo – SP, Brazil

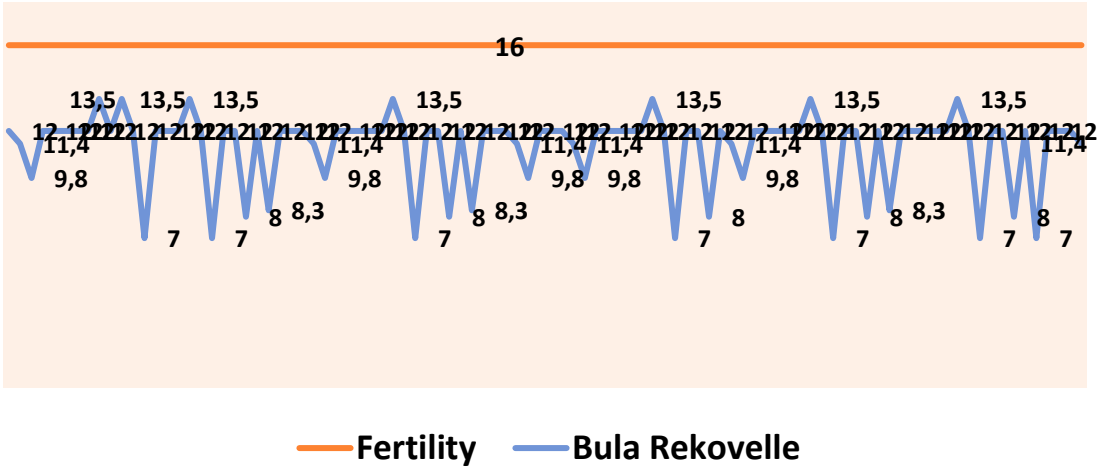
(submitted)

Rekovelle: 362 ciclos / 3958 ovócitos

Ciclos iniciados (n=362)

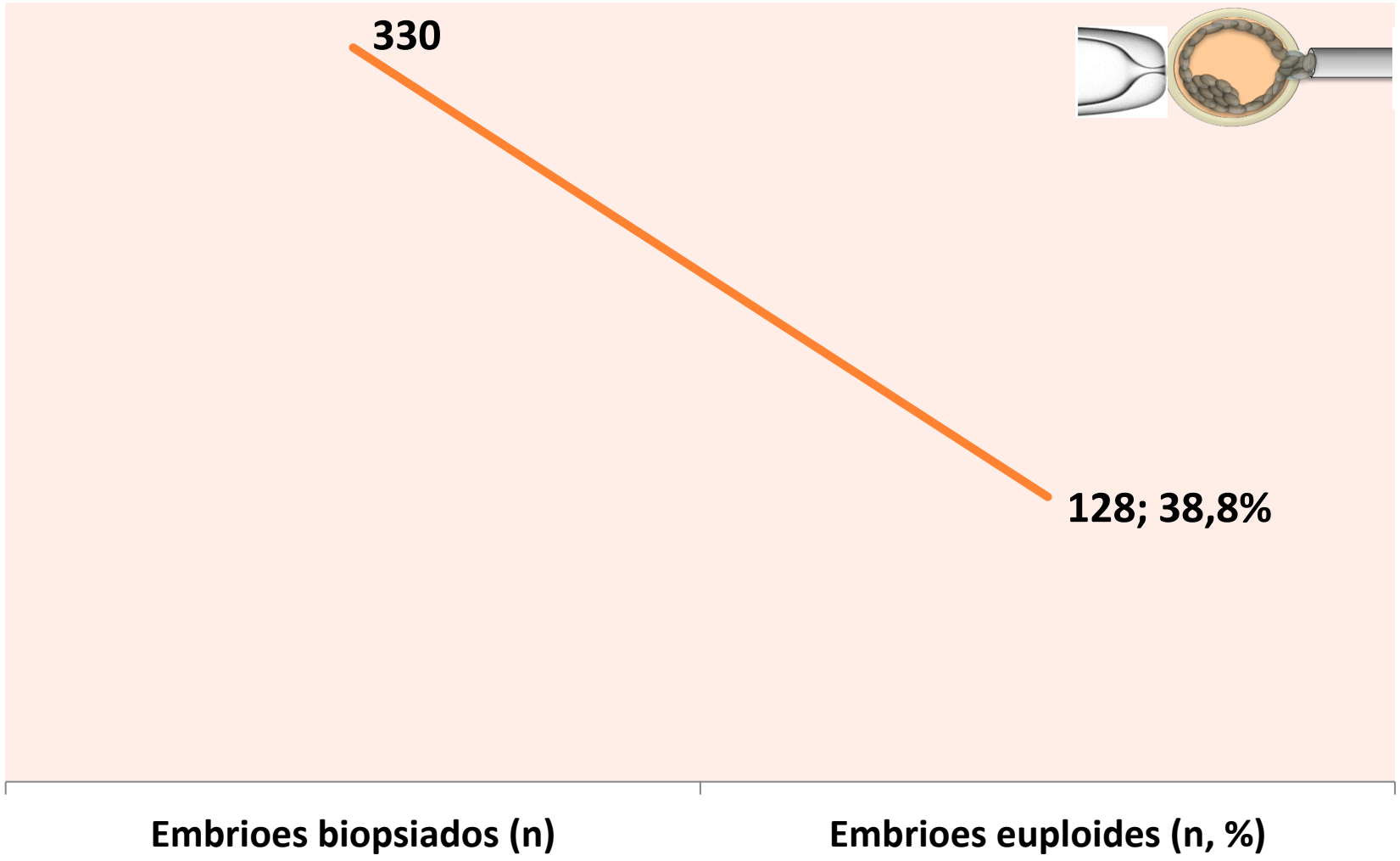
Idade ♀ 37,3 ± 3,1 anos





FERTILITY

Ciclos PGT-A (88 ciclos, 330 embriões)



FERTILITY

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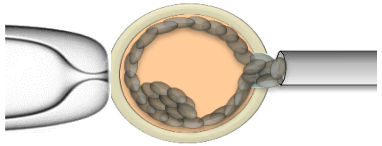
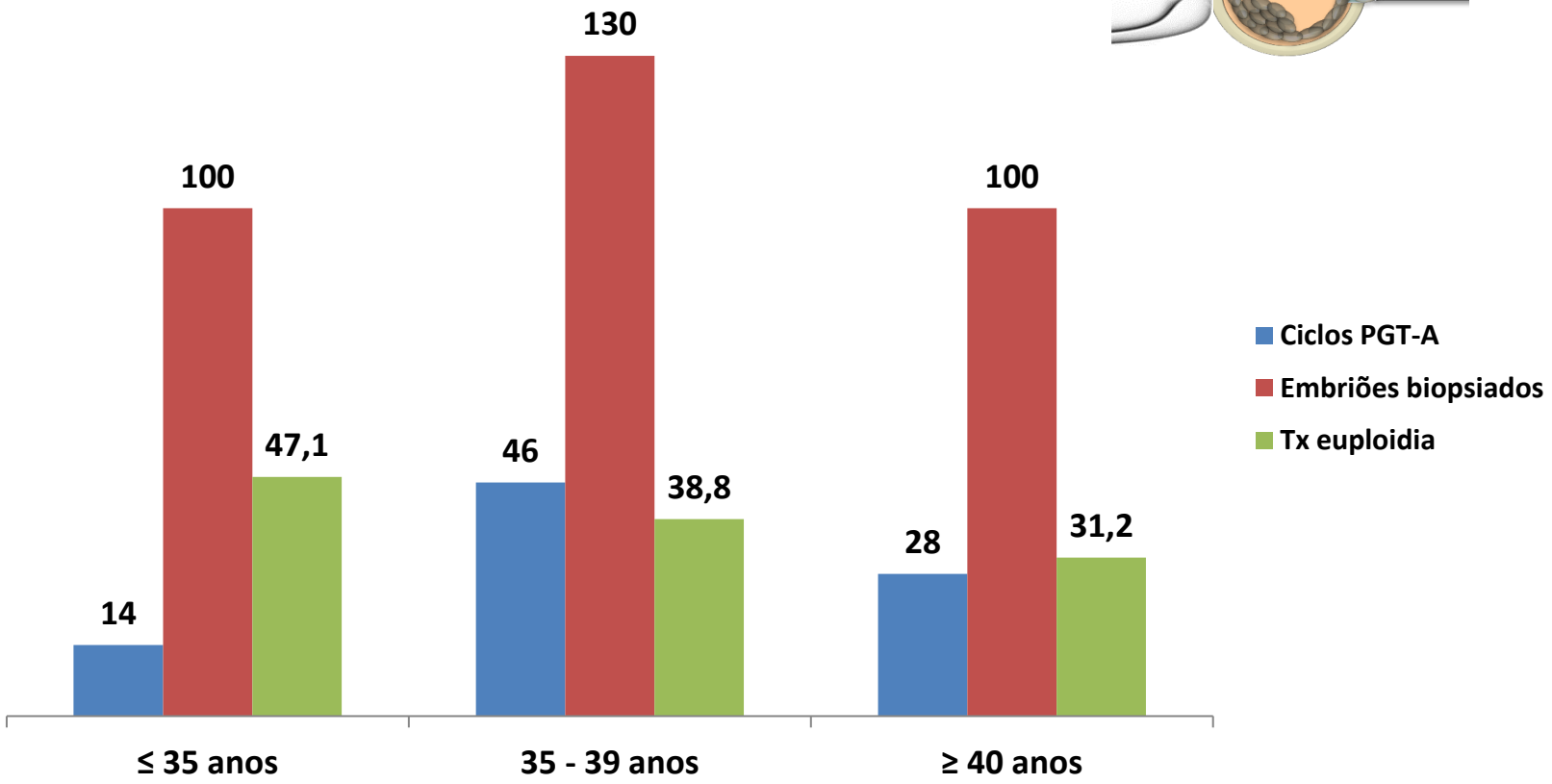
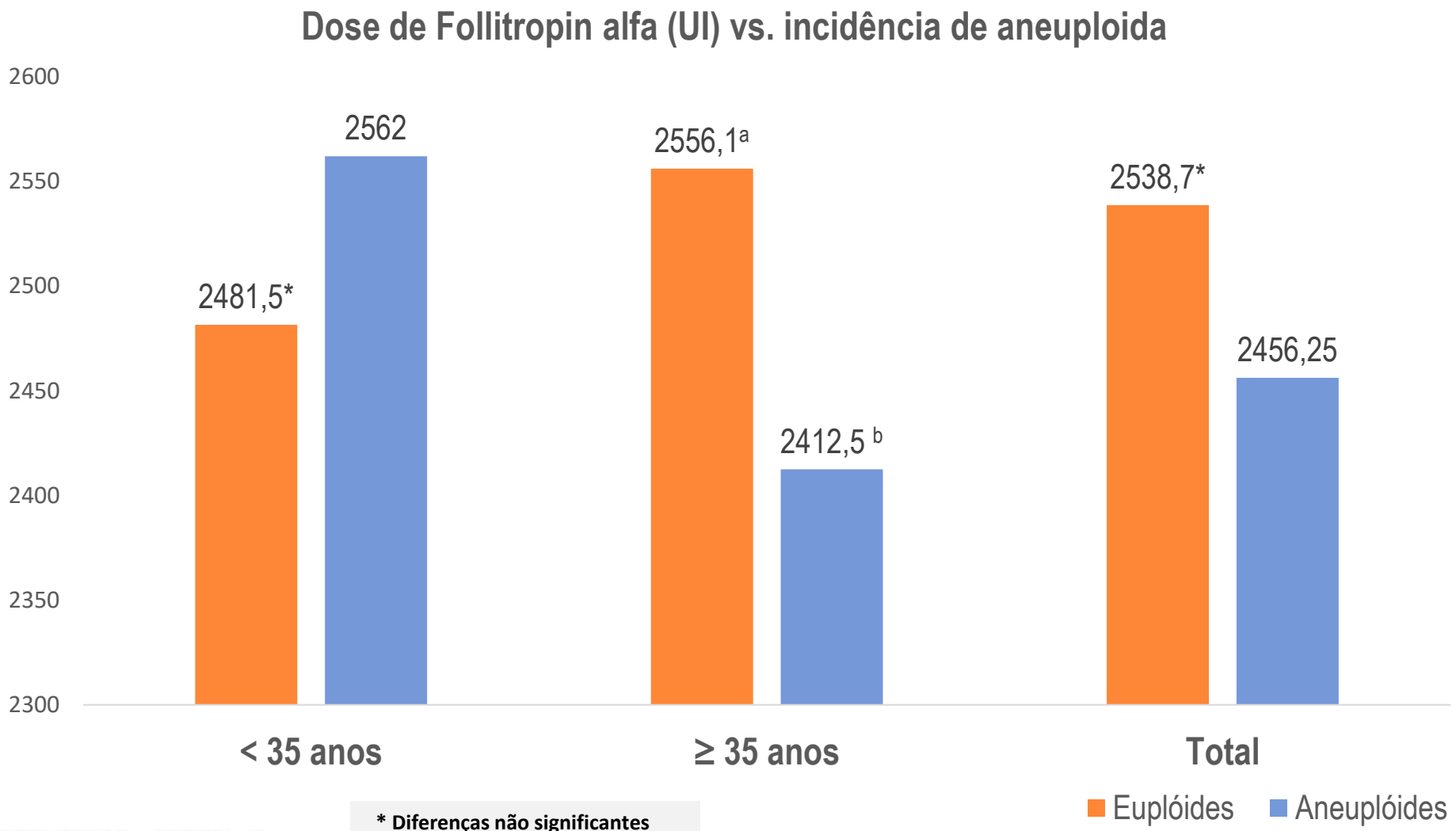




FERTILITY



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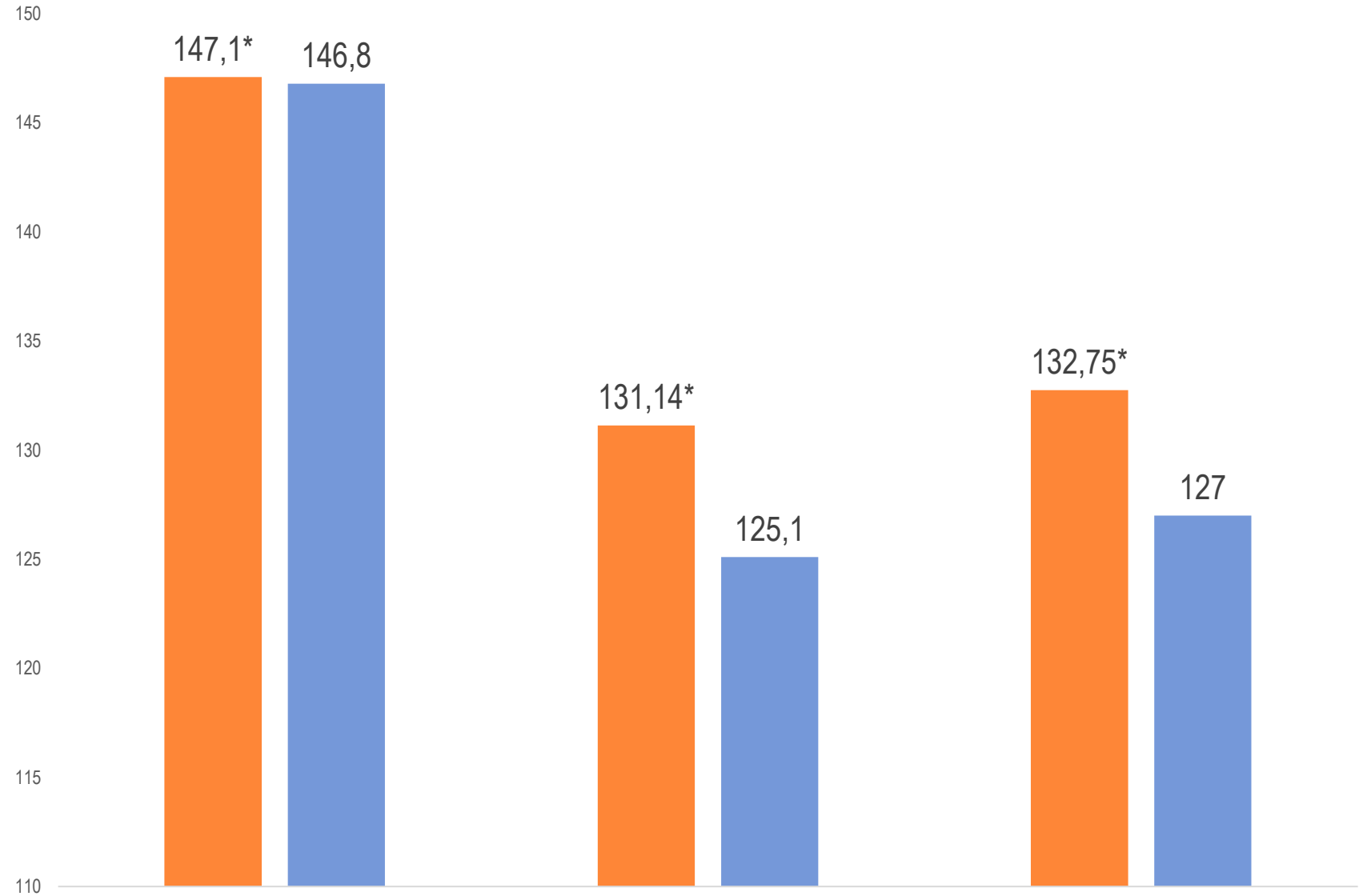
* Diferenças não significantes

a ≠ b

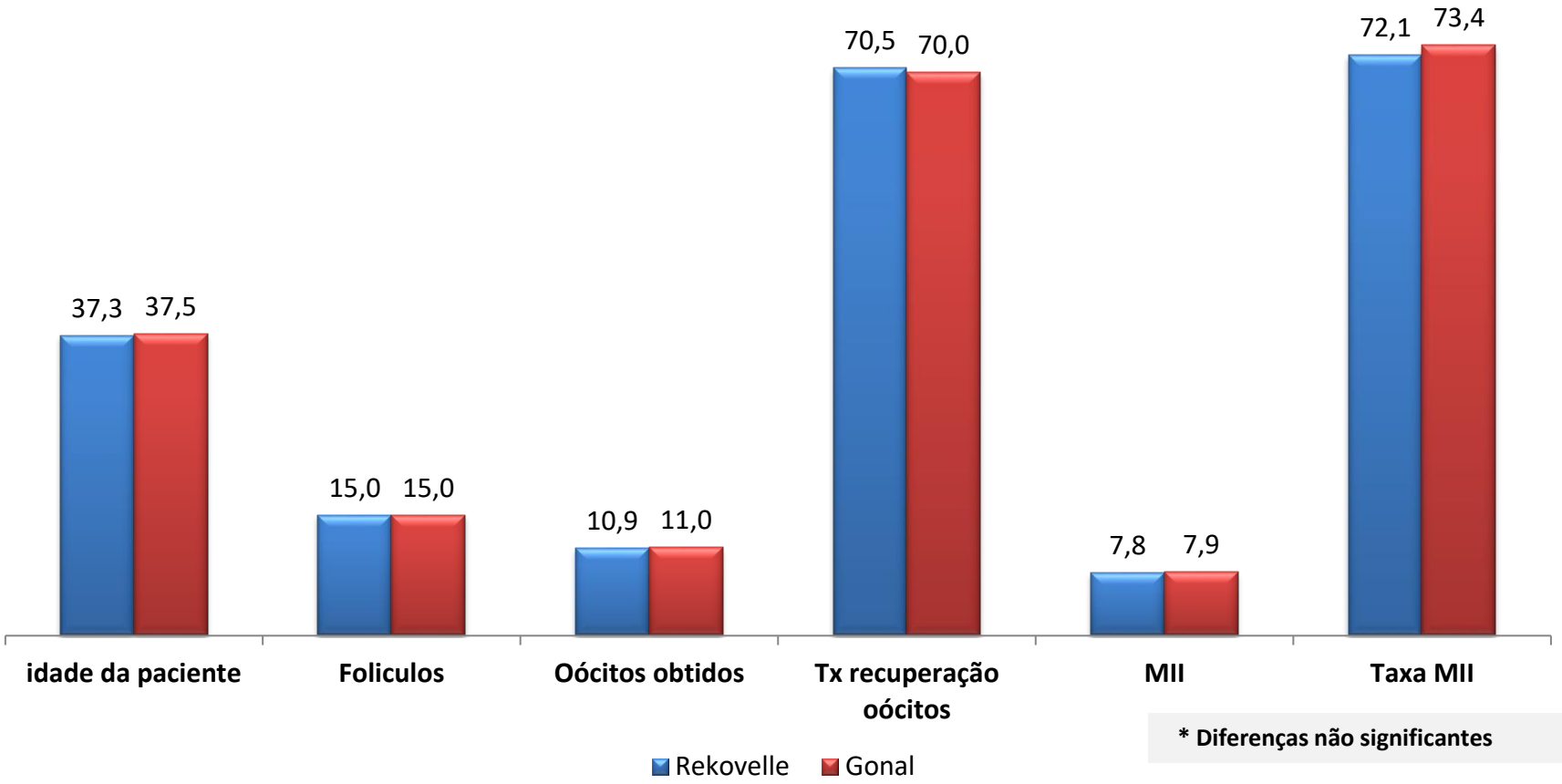
Dose de folitropina delta (µg) vs. incidência de aneuploidia



FERTILITY

*** Diferenças não significantes**

Resultados COS Rekovelle x Gonal



*** Diferenças não significantes**

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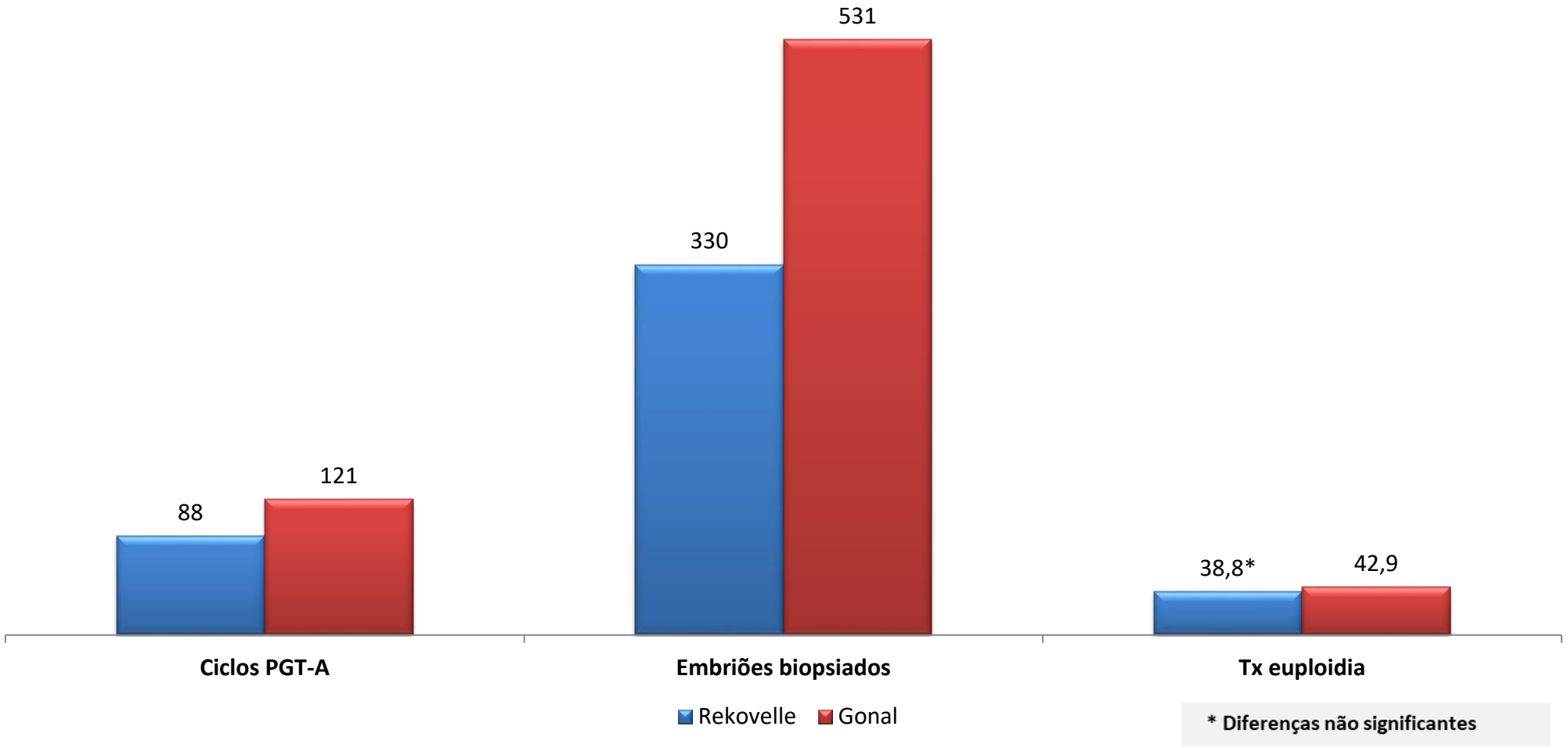
Ciclos PGT-A Rekovelle x Gonal



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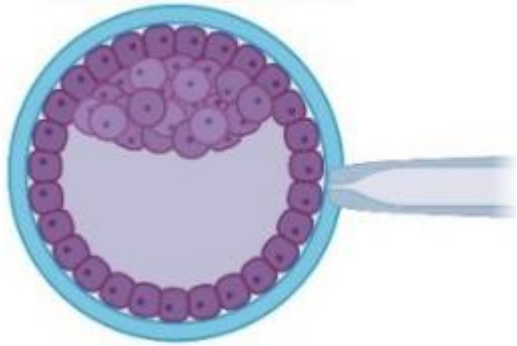
Resultados NGS FERTILITY

- folitropina alfa
- folitropina delta



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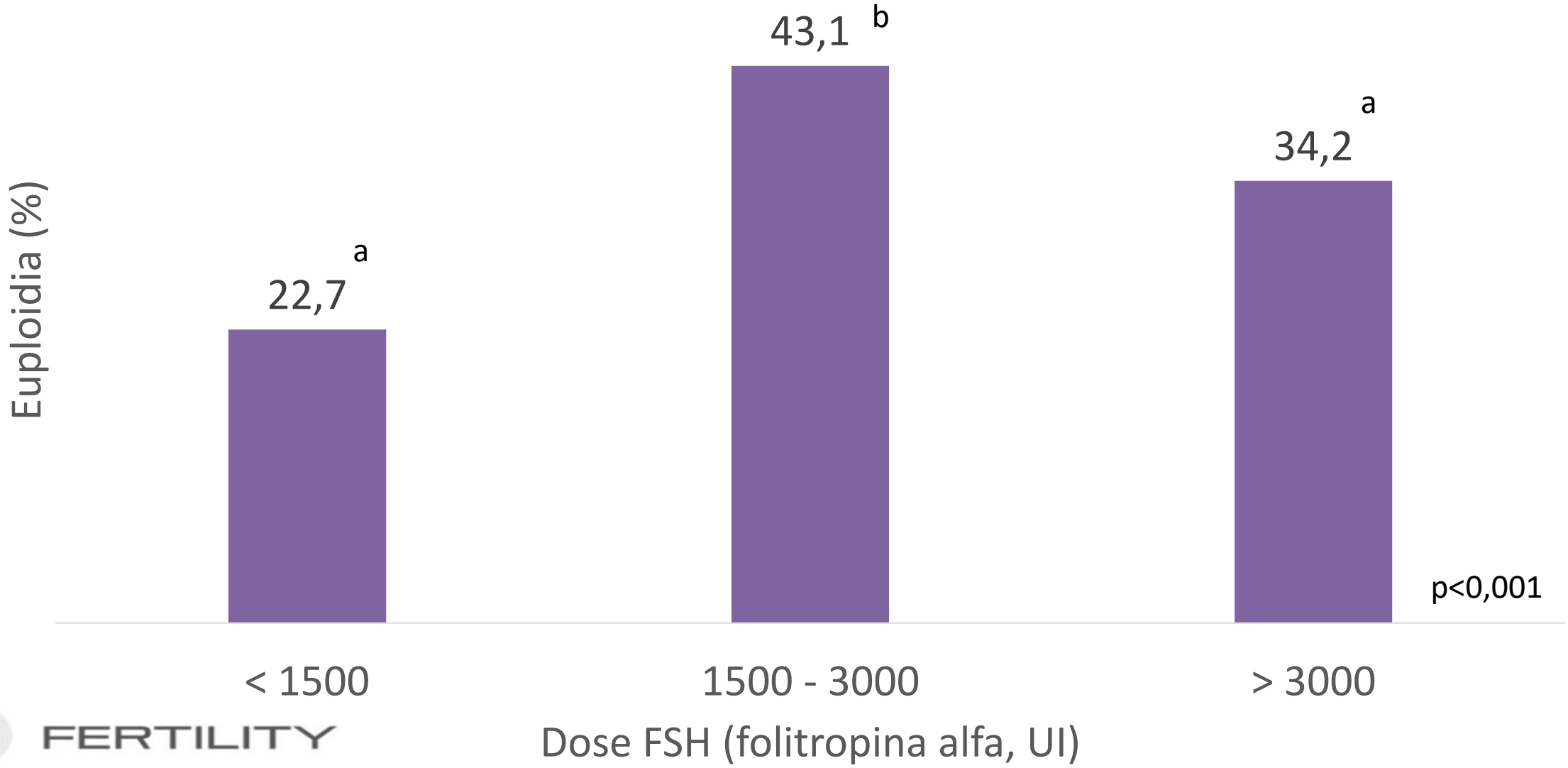
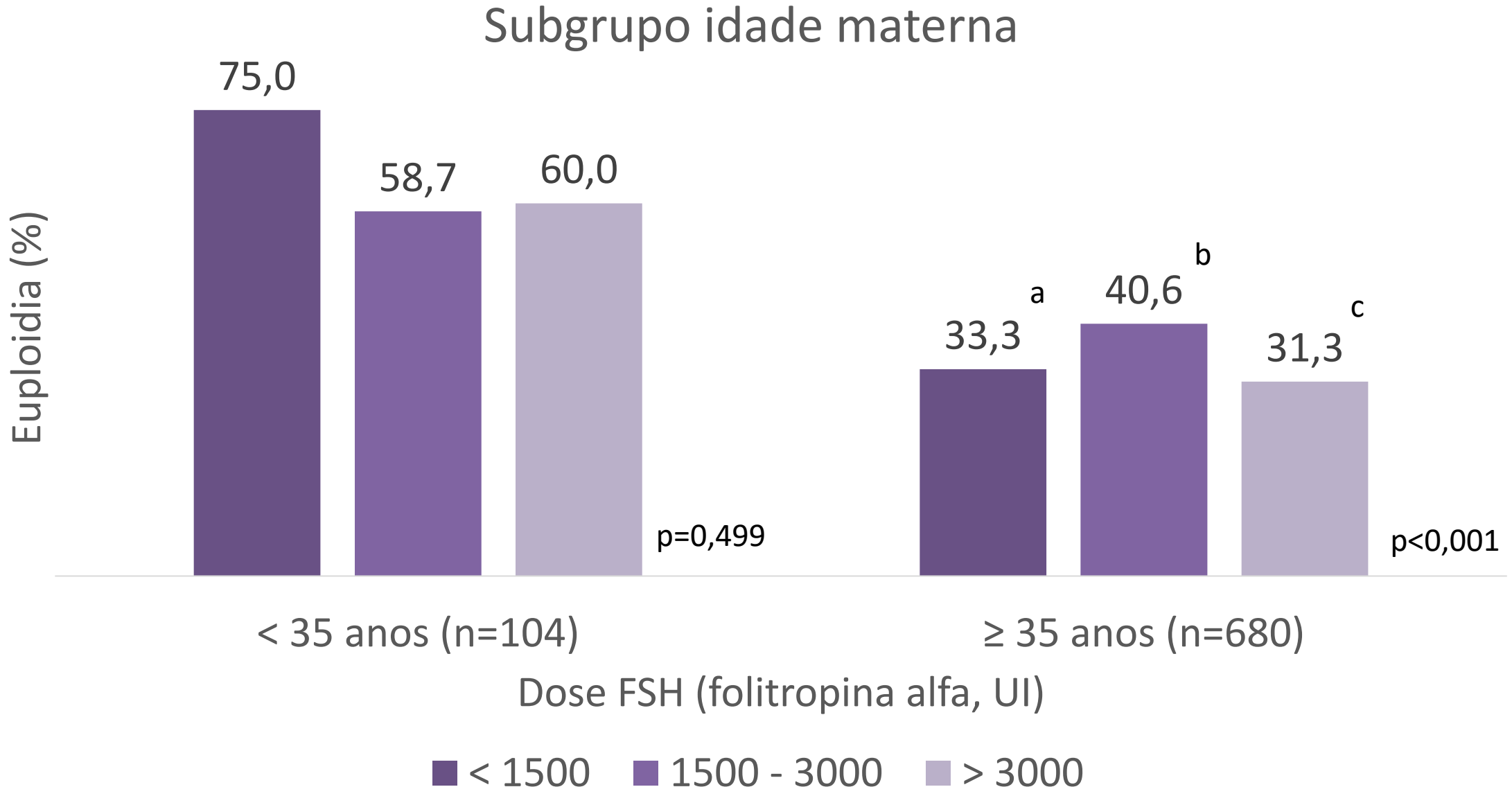
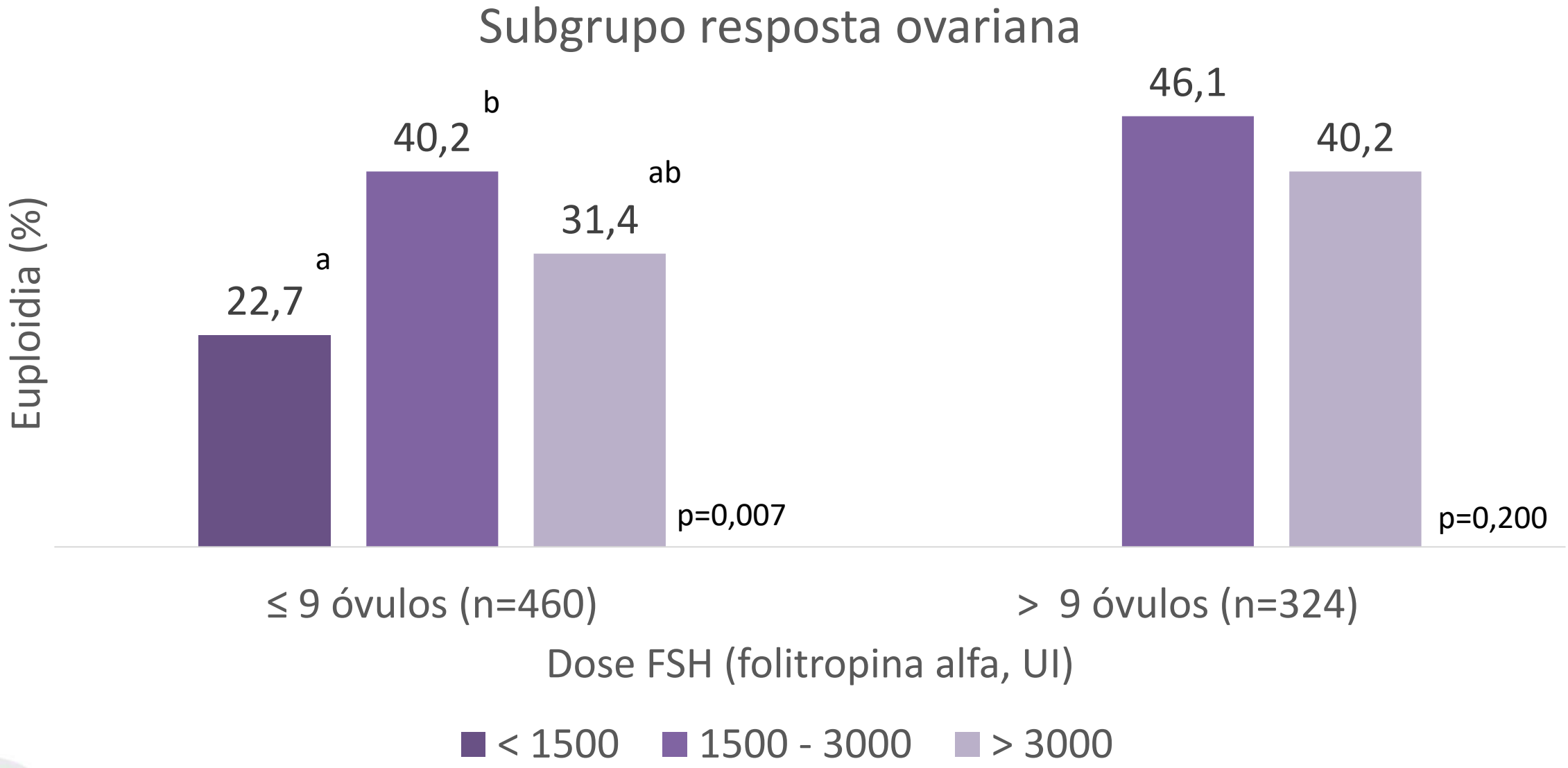
Grupo geral (n=784 ciclos)



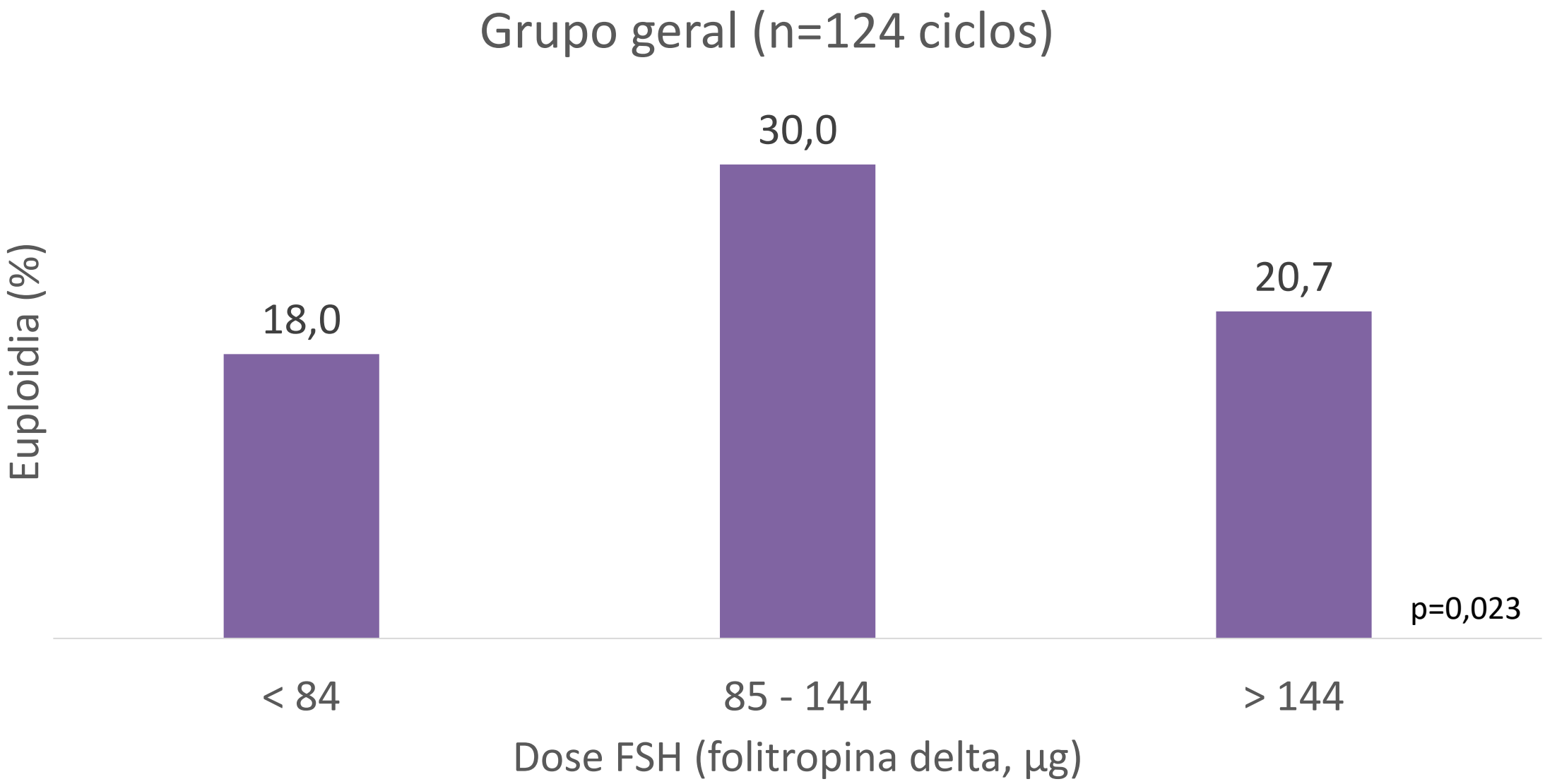
FERTILITY


Subgrupo idade materna
Euploidia (%)
75,0
58,7
60,0
p=0,499
33,3
a
40,6
b
31,3
c
p<0,001
< 35 anos (n=104)
≥ 35 anos (n=680)
Dose FSH (folitropina alfa, UI)
< 1500
1500 - 3000
> 3000

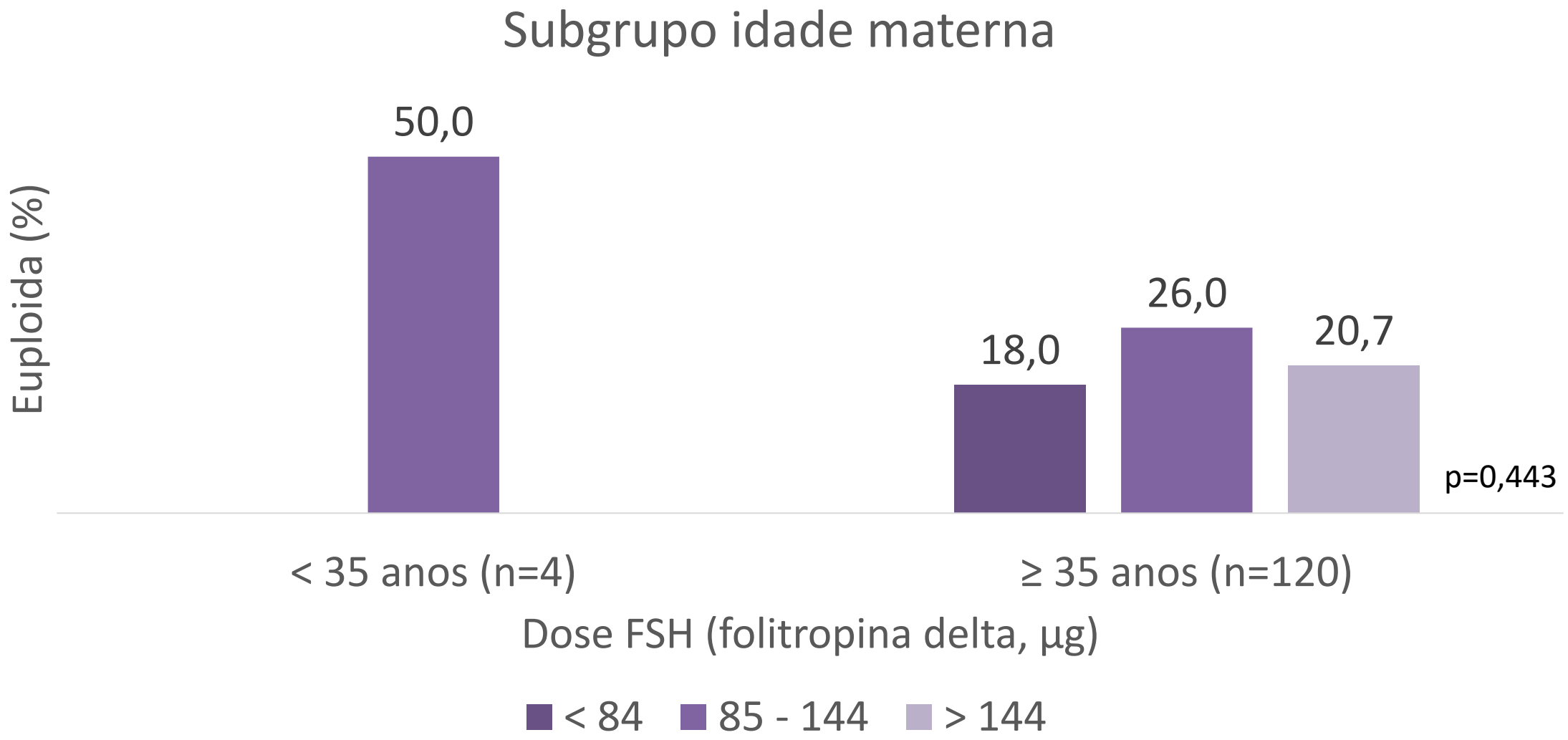
FERTILITY


Subgrupo resposta ovariana
Euploidia (%)
22,7
a
40,2
b
31,4
ab
p=0,007
46,1
40,2
p=0,200
≤ 9 óvulos (n=460)
> 9 óvulos (n=324)
Dose FSH (folitropina alfa, UI)
< 1500
1500 - 3000
> 3000

FERTILITY


Grupo geral (n=124 ciclos)
Euploidia (%)
18,0
30,0
20,7
p=0,023
< 84
85 - 144
> 144
Dose FSH (folitropina delta, µg)

FERTILITY


Subgrupo idade materna
Euploida (%)
50,0
18,0
26,0
20,7
p=0,443
< 35 anos (n=4)
≥ 35 anos (n=120)
Dose FSH (folitropina delta, µg)
< 84
85 - 144
> 144

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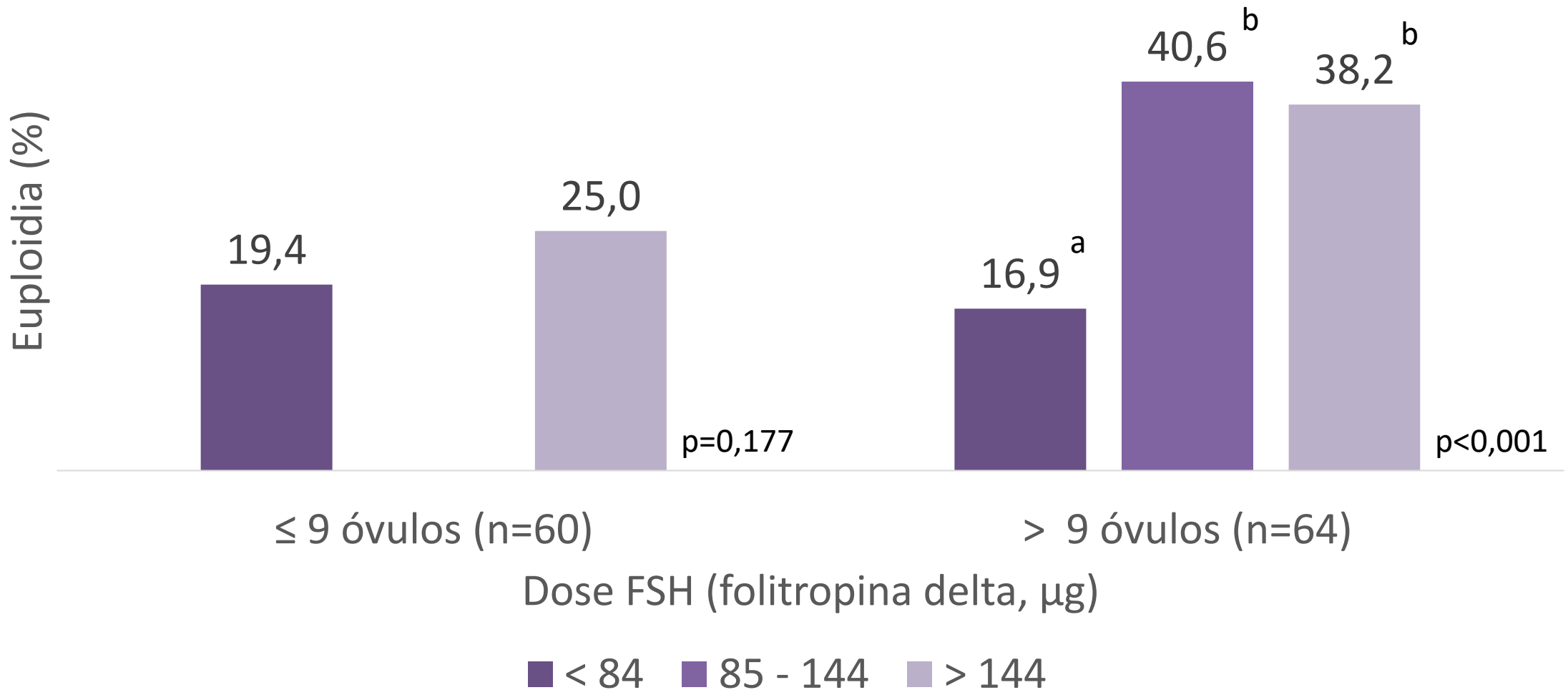
Subgrupo resposta ovariana



FERTILITY

Take home message

MELHORES TAXAS DE EUPLOIDIA

- **FOLITROPINA ALFA**
  doses de FSH 1.500 - 3.000 UI / idad / subresposta ovariana

- **FOLITROPINA DELTA**
  doses de F - 144 µcg / normo ou alta resposta ovariana

Diferentes gonadotropinas / Diferentes taxas de euploidia ??

FERTILITY

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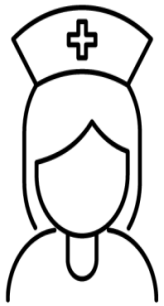

Enfermagem

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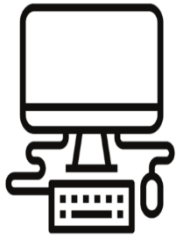
Maria Regina S. da Silva
Vera Lucia Alves



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Obrigado!

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