Is the use of PGT-A effective in patients over 40 years of age? Analysis of 20,807 cycles of the national registry in Spain.

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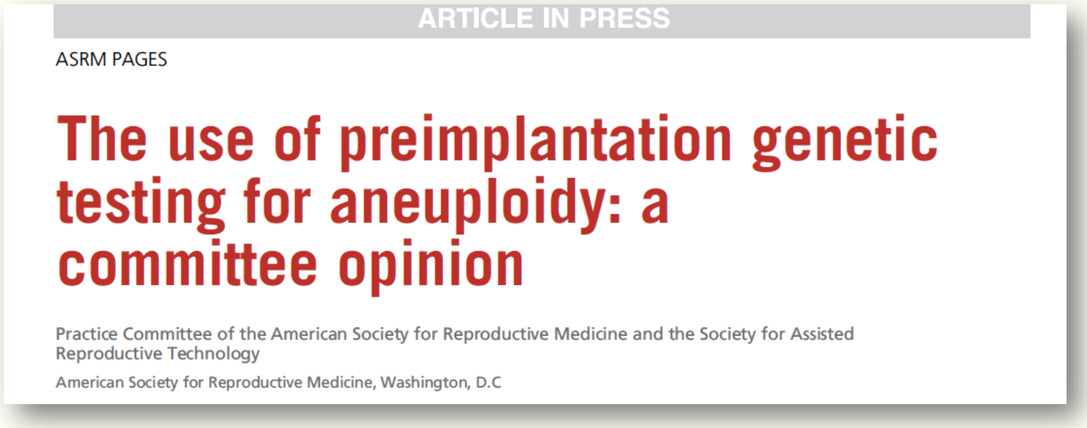
Introduction



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ASRM PAGES

The use of preimplantation genetic testing for aneuploidy: a committee opinion

Practice Committee of the American Society for Reproductive Medicine and the Society for Assisted Reproductive Technology

American Society for Reproductive Medicine, Washington, D.C

Society for Assisted Reproductive Technology (SART): the proportion of IVF cycles using PGT:

14% in 2014 to 44% in 2019

Sociedad Española de Fertilidad

Registro

Válido xxxx-xxxx

Centro Colaborador
Registro de Reproducción Asistida
Sociedad Española de Fertilidad

GOBIERNO DE ESPAÑA · MINISTERIO DE SANIDAD Y POLITICA SOCIAL E IGUALDAD

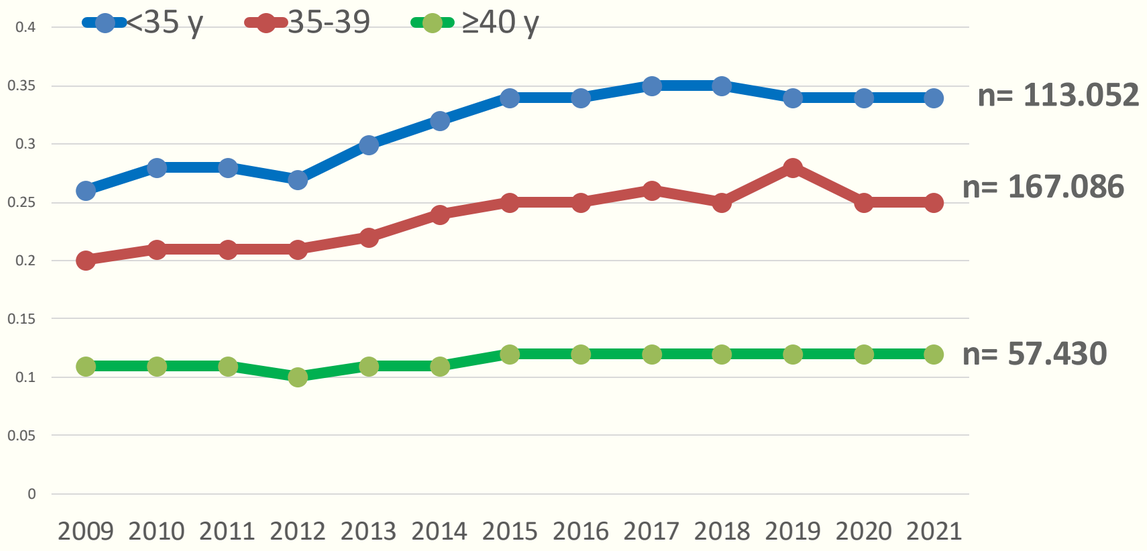
PREMIO A LA **CALIDAD**
Sistema Nacional de Salud

In Spain, (SEF) the proportion of IVF cycles using PGT has increased from

5% in 2009 to 38,5 in 2021.

Introduction

Live birth rate per transfer



Advanced maternal age was the cause of PGT-A indication in 60,2% of cases in 2021.

Registro SEF 2021

La edad materna avanzada fue la causa de indicación en el 60,2% de las indicaciones.

PGT: Indicaciones	
	N (%)
Enfermedades moleculares	970 (7,0%)
Enfermedades citogenéticas	708 (5,1%)
Abortos de repetición	824 (5,9%)
Edad materna avanzada	8.380 (60,2%)
Fallo de implantación	849 (6,1%)
Otras	2.188 (15,7%)
Total indicaciones	13.919 (100,0%)

https://www.registrosef.com/index.aspx#Anteriores

Objective

The aim of this study was to analyze data from the Spanish Fertility Society Registry and compare delivery outcomes between NGS-based PGT-A and non-PGT-A groups in women of advanced maternal age.

Methods

Live birth outcomes from the Spanish National Assisted Reproduction Registry between 2019 and 2021, including all ovarian stimulation cycles with autologous gametes in women over 40 years old:

20,807 cycles PGT-A

27,494 cycles IVF/ICSI

Comparisons were made using Chi2 test ($p < 0,05$ indicated statistically significant)

https://www.registrosef.com/index.aspx#Anteriores

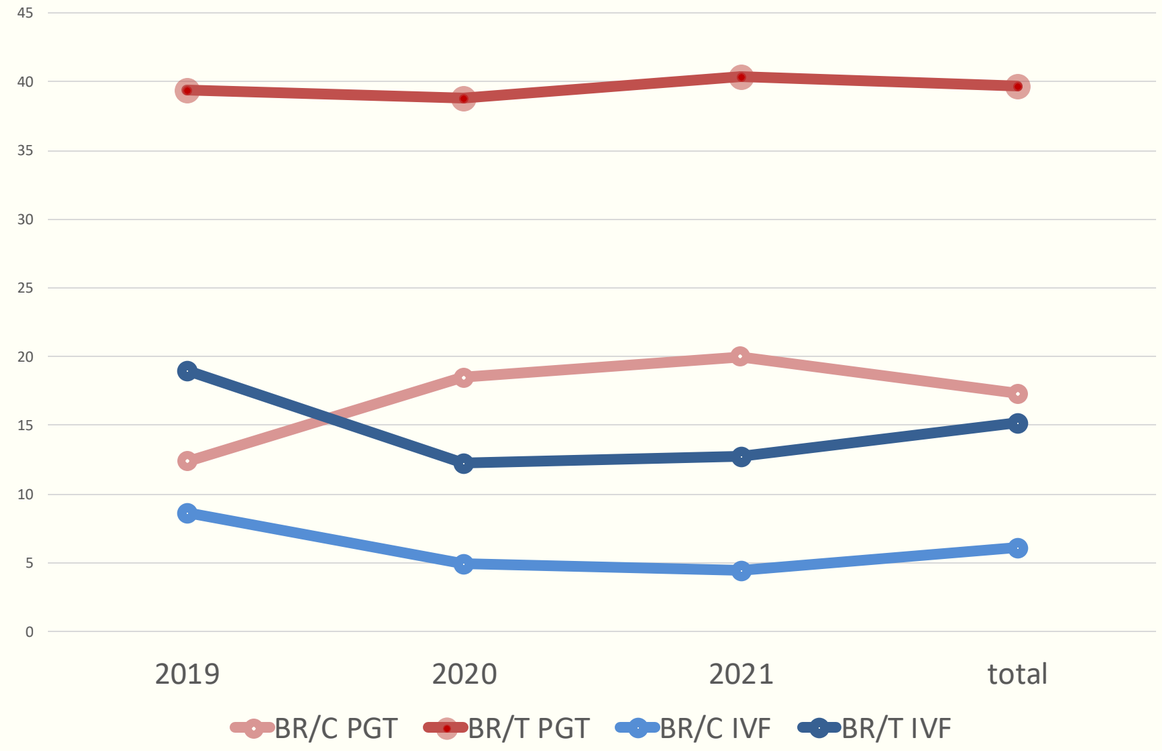
Results

Cycles and transfers in patients over 40 years

	PGT			IVF/ICSI		
	Cycles	Transfers	%	Cycles	Transfers	%
2019	6270	1984	31,6	9811	4525	46,12
2020	6220	2976	47,8	8390	3350	39,9
2021	8380	4159	49,6	9293	3274	35,2
Total	**20870**	**9119**	**43,6**	**27494**	**11149**	**40,5**

Results

Live birth rate per cycle and per transfer in patients over 40 years

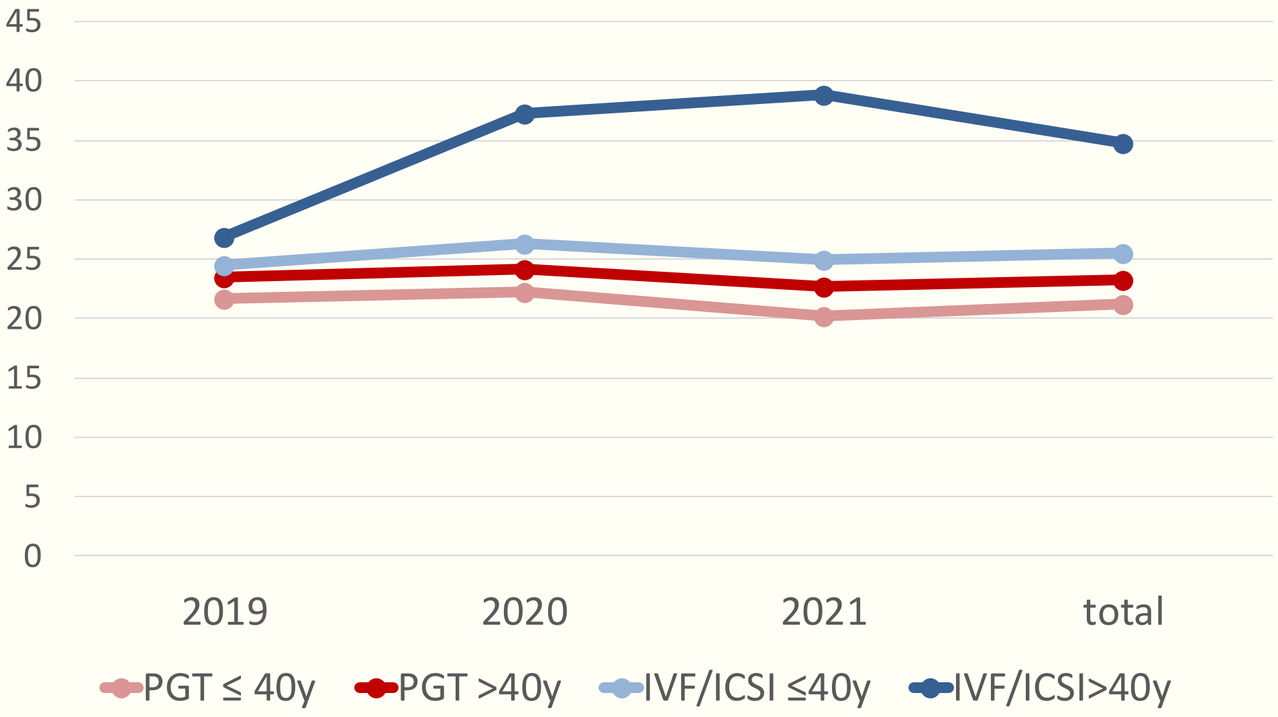


	PGT		IVF/ICSI	
	LBR/ C	LBR/T	LBR/C	LBR/T
2019	12,4	39,4	8,7	19
2020	18,5	38,8	4,9	12,3
2021	20	40,4	4,5	12,8
total	**17,3**	**39,7**	**6,16**	**15,2**

$p < 0.01$

Results

Miscarriage rate in patients older and younger than 40y



	PGT		IVF/ICSI	
	≤ 40y	**>40y**	**≤40y**	**>40y**
2019	21,7	23,46	24,5	26,93
2020	22,3	24,16	26,3	37,28
2021	20,22	22,68	25,2	38,90
total	**21,24**	**23,30**	**25,3**	**34,8**

$p < 0.01$

Results

Number of transfers needed to obtain each live birth

	PGT		IVF/ICSI	
	≤ 40y	>40y	≤40y	>40y
2019	2,38	2,53	3,30	5,56
2020	2,52	2,58	3,20	6,03
2021	2,33	2,47	3,20	5,33
total	**2,4**	**2,52**	**3,2**	**5,6**

$p < 0.01$

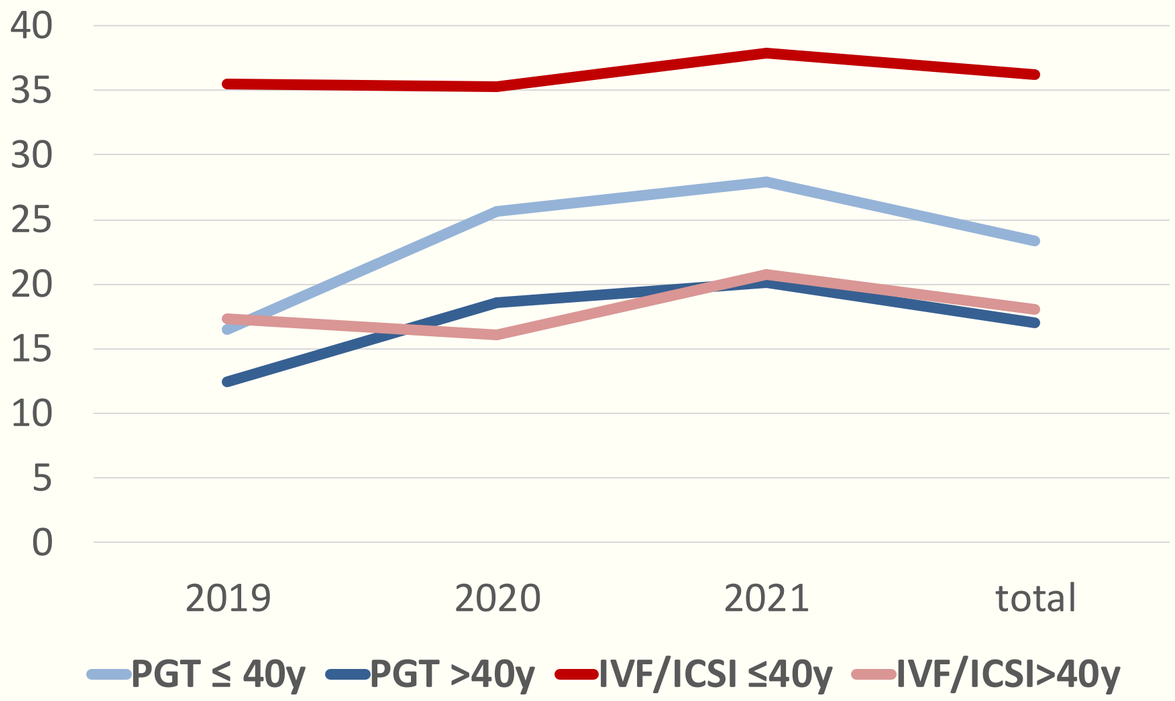
Number of stimulations per live birth achieved

	PGT		IVF/ICSI	
	≤ 40y	>40y	≤40y	>40y
2019	6,07	8,01	2,81	5,76
2020	3,9	5,39	2,83	6,19
2021	3,58	4,98	2,64	4,82
total	**4,5**	**5,14**	**2,76**	**5,38**

p:0,049

Results

Cumulative birth rate



	PGT		IVF/ICSI	
	≤ 40y	>40y	≤40y	>40y
2019	16,48	12,49	35,5	17,3
2020	25,6	18,57	35,3	16,1
2021	27,9	20,1	37,9	20,7
total	**23,3**	**19,45**	**36,2**	**18,58**

p:0,049

Conclusion

This study confirmed that next-generation sequencing-based preimplantation genetic testing for aneuploidies improve the achievement of a live birth and reduces the abortion rate in women over 40 years old, compared to those achieved with IVF/ICSI.

Limitations, reasons for caution

One of the main weaknesses of the study is that we do not know the number of embryos obtained in PGT-A cycles.

Zaida espacio de salud

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