



ISFP



Dual-IVM: a innovative strategy of fertility preservation for increasing the number of vitrified oocytes when ovarian stimulation is unfeasible

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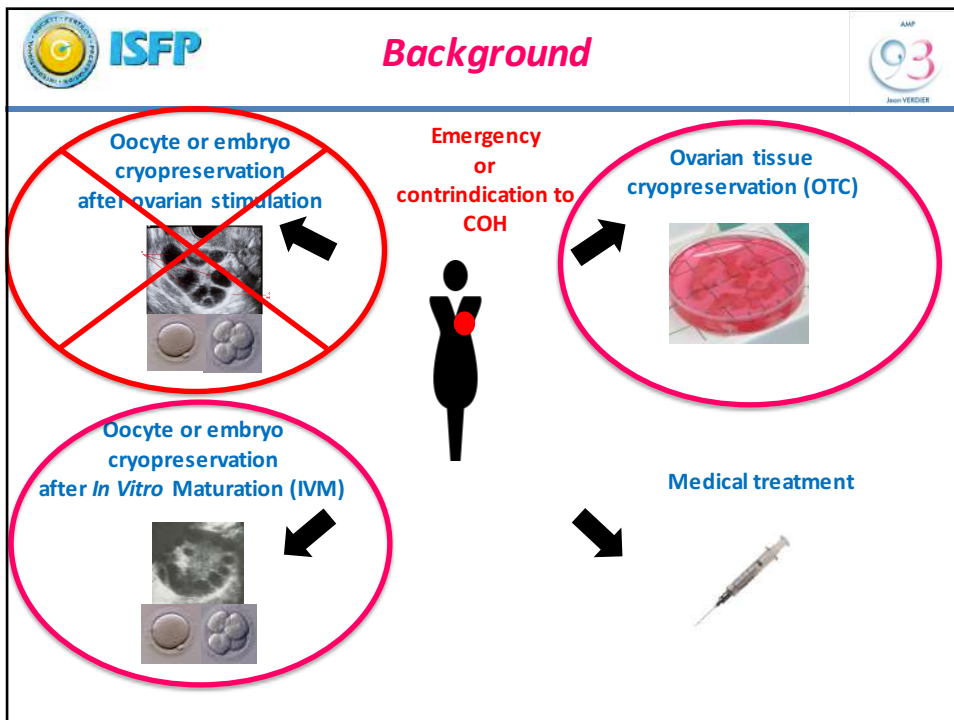
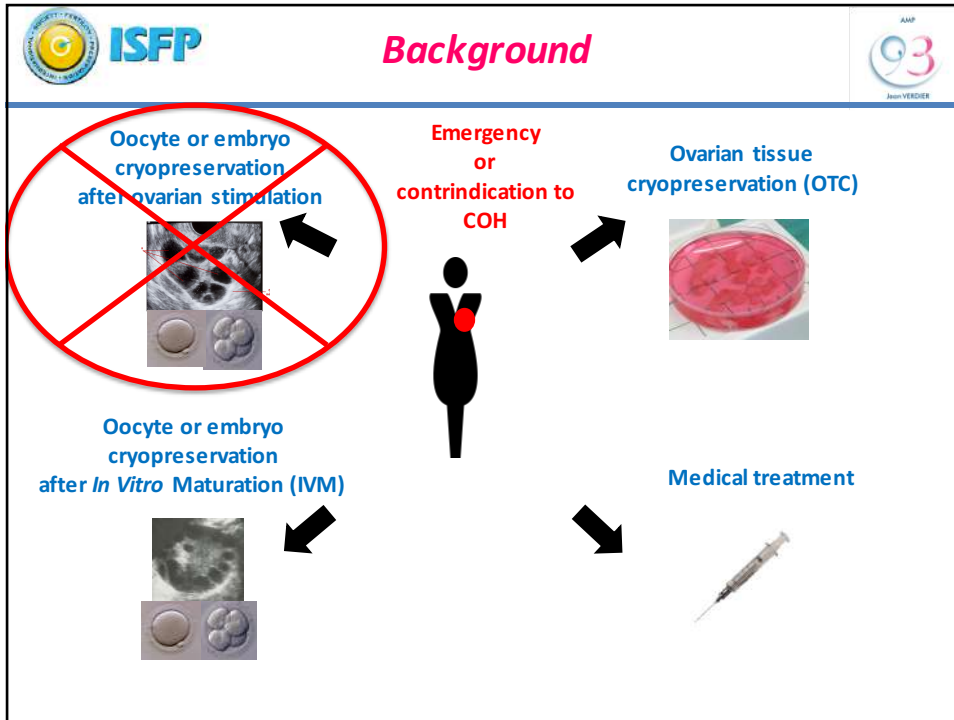
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Disclosure information: none





IVM







- Easy to realize
- Emergency
- Irrespective of cycle phase
- No risk of reintroduction of malignant cells
- > 5.000 live births in PCOS
- Association with OTC




- Unpredictable number of recovered COCs
- Unknown potential of IVM oocytes
- Only 3 live births in FP context
- Not possible after initiation of CT

➔ How many mature oocytes to provide « reasonable » chances of pregnancy ?



IVM



≤ 35 years old

8 mature oocytes → 40.8% live birth

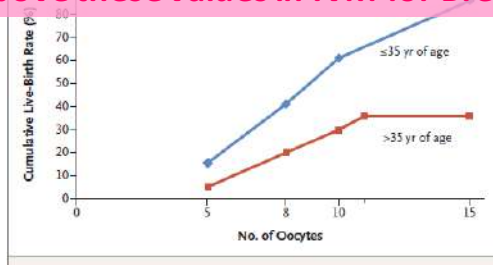
10 mature oocytes → 60.5% live birth

≥ 36 years old

8 mature oocytes → 20% live birth



10 mature oocytes → 30% live birth

➔ Target above these values in IVM for Breast Cancer



No. of Oocytes	≤35 yr of age (%)	>35 yr of age (%)
5	~15	~5
8	~40	~20
10	~60	~30
15	~75	~35


Cobo et al. Fertil Steril 2016

IVM


	Patients (n)	Oocytes recovered (n)	Maturity rates (%)	Matures oocytes or embryos (n)
Shalom-paz et al (2010)	Oocyte (n=35)	11.4 ± 8.8	64.2	7.9±6.6
	Embryos (n=31)	9.7 ± 6.4	53.2	5.8 ± 2.7
Maman et al (2011)	Luteal phase (n=5)	12.8±8.4	48.6 ± 18.3	6.4 ± 6.6
	Follicular phase (n=13)	17.3±13.5	57.8 ± 29.2	7.8 ± 7.5
Moria et al (2011)	N=87	9 (6-16)	50 (40 – 62.5)	8 (4-17)
Grynberg et al (2016)	Luteal phase (n=127)	9.3±0.7	66.7 (20-100)	6.2 ± 0.4
	Follicular phase (n=121)	11.1±0.8	64.5 (0-100)	6.8 ± 0.5
Sonigo et al (2016)	Breast cancer (n=44)	8.5 ± 4.4	66.7 ± 18.3	6.0 ± 3.0
	Breast cancer after ABVD (n=22)	5.5 ± 4.8	66.7 ± 29.9	3.5 ± 3.7
Creux et al (2017)	Early Follicular phase (n=46)	8.5 (4 - 15.8)	53.5 (39.8 - 77)	3 (2 – 5.9)
	Late follicular phase (107)	8 (5 - 14)	58 (44- 82)	3 (0.5 – 5)
	Luteal phase (n=39)	7 (4-9)	50 (33 – 67)	2 (1 – 3)

➔ How to increase the number of vitrified oocytes?





Objective

**To evaluate the feasibility and safety
of performing
two successive IVM cycles**



Patients and methods



✓ **18 Breast Cancer patients**
(CI to COH)

↓



✓ **First cycle of IVM for FP (IVM #1)**



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✓ **Low number of oocyte vitrified**


↓

✓ **Ovarian tissue cryopreservation**





Second IVM, just before recovering ovarian tissue (IVM #2)



Results



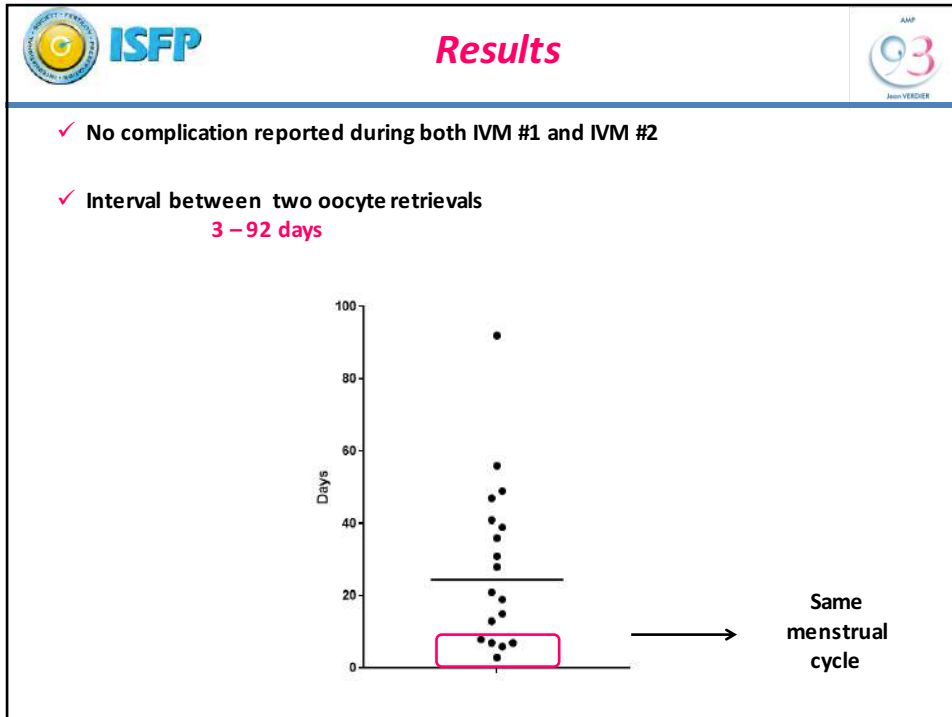
✓ **Patients' characteristics**

	Mean ± SD
Age (years)	32 ± 6
BMI (kg/m ²)	22.8 ± 2.9
AMH (ng/ml)	3.0 ± 1.7
AFC (follicles)	21.1 ± 1.9

✓ **IVM outcomes**

	IVM #1	IVM #2	p
Number of COCs recovered (n)	6.7 ± 2.9	7.1 ± 5.4	0.8
No. of in vitro matured oocytes (n) ^a	3.8 ± 2.6	4.0 ± 4.2	0.8
Maturation rate (%)	62 ± 23	51 ± 34	0.4
Oocyte recovery rate (%) ^a	36 ± 18	32 ± 16	0.7



✓ **Total number of oocytes vitrified per patient was significantly increased by the second procedure (7.7±5.7 vs. 3.8±2.6 oocytes, p < 0.001)**





ISFP Results

- ✓ No complication reported during both IVM #1 and IVM #2
- ✓ Interval between two oocyte retrievals
3 – 92 days
- ✓ IVM #2 according to menstrual cycle

	IVM #2 (same menstrual cycle) (n=6)	IVM #2 (not same menstrual cycle) (n=12)	p
Number of COCs recovered (n)	6.5 (1-9)	5.5 (1-20)	0.9
No. of <i>in vitro</i> matured oocytes (n)	3 (0-6)	2.5 (0-15)	0.8
Maturation rate (%)	48 (0-100)	57 (0-100)	0.9
Oocyte recovery rate (%)	34 (7-50)	29 (4-66)	0.6

	ISFP	Conclusion	
<p>IVM may constitute an option allowing oocyte (or embryo) cryopreservation with minimally invasive procedure in urgent FP situations</p> <p>Due to the reduced competence of IVM oocytes, combining ovarian tissue cryopreservation to IVM represents the most reliable strategy.</p> <p>Our results demonstrate that Dual-IVM might also be a safe and feasible option for increasing the number of vitrified oocytes</p> <p>A second IVM cycle can be performed even a couple of days after a first immature oocyte retrieval</p> <p>Cumulating oocytes through dual IVM might be particularly interesting in young women who do not want to consider OTC.!</p>			

	ISFP	Thank															
<table border="0" style="width: 100%;"> <tr> <td data-bbox="384 1317 571 1350" style="text-align: center;">Medical team</td> <td data-bbox="954 1317 1161 1350" style="text-align: center;">Biological team</td> </tr> <tr> <td data-bbox="384 1379 592 1413">Pr M. Grynberg</td> <td data-bbox="938 1379 1082 1413">Dr. C. Sifer</td> </tr> <tr> <td data-bbox="384 1451 667 1485">Dr. I. Cédrin Durnerin</td> <td data-bbox="938 1480 1193 1514">Dr. N. Sermondade</td> </tr> <tr> <td data-bbox="384 1525 571 1559">Dr. M.Comtet</td> <td data-bbox="938 1576 1145 1610">Dr. F. Eustache</td> </tr> <tr> <td data-bbox="384 1599 555 1632">Dr. A.Seroka</td> <td data-bbox="938 1673 1177 1706">Dr. C. Herbemont</td> </tr> <tr> <td data-bbox="384 1673 571 1706">Dr. C. Vinolas</td> <td data-bbox="938 1767 1225 1800">Tec labo BDR / CECOS</td> </tr> <tr> <td data-bbox="384 1749 512 1783">A. Benoit</td> <td></td> </tr> </table>				Medical team	Biological team	Pr M. Grynberg	Dr. C. Sifer	Dr. I. Cédrin Durnerin	Dr. N. Sermondade	Dr. M.Comtet	Dr. F. Eustache	Dr. A.Seroka	Dr. C. Herbemont	Dr. C. Vinolas	Tec labo BDR / CECOS	A. Benoit	
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