

Category **Clinical science**

Topic **Male and female fertility preservation (incl. oncofertility, medical indications, social freezing, laboratory techniques)**

Consent e-learning **I accept, but would like to review my slides before they are published on the ESHRE elearning platform with the possibility to exclude one or more slides.**

Presentation preference **Oral or poster presentation**

Abstract title **Fertility preservation by oocyte vitrification or ovarian cortex cryopreservation. A prospective cohort study**

C. Díaz-García<sup>1</sup>, J. Domingo<sup>2</sup>, S. Herraiz<sup>3</sup>, I. Iniesta<sup>4</sup>, A. Cobo<sup>5</sup>, A. Garcia-Belda<sup>6</sup>, J.M. Rubio<sup>4</sup>, J.A. Garcia-Velasco<sup>7</sup>, A. Pellicer<sup>8</sup>.

<sup>1</sup>La Fe University Hospital, Department of Obgyn-University of Valencia, Valencia, Spain.

<sup>2</sup>IVI, Las Palmas, Las Palmas de Gran Canaria, Spain.

<sup>3</sup>IVI, IVI Foundation, Valencia, Spain.

<sup>4</sup>La Fe University Hospital, IVF Unit, Valencia, Spain.

<sup>5</sup>IVI, Valencia, Valencia, Spain.

<sup>6</sup>La Fe University Hospital, IIS la Fe, Valencia, Spain.

<sup>7</sup>IVI, Madrid, Madrid, Spain.

<sup>8</sup>IVI, Rome, Rome, Italy.

**Study question:**

**What is the best technique for fertility preservation (FP) for medical reasons, oocyte vitrification (OV) or ovarian cortex cryopreservation (OCC)?**

**Summary answer:**

**OV and OCC yielded similar clinical and ongoing pregnancy rates (CPR, OPR) than OCC, although there is a trend to higher rates with the former.**

**What is known already:**

**The increasing survival rates and success of oncological treatments make FP procedures a key step in the holistic management of the oncologic patient. FP for oncological reasons should be considered since the moment of diagnosis and it has become a major issue in young women. Counseling should be individualized based on the risk of gonadal failure that depends on patient's age, ovarian reserve, chemotherapy drug/regimen and time prior to treatment. Different strategies have been proposed for FP, being OV and OCC the most recommended procedures as both provide excellent clinical outcomes.**

**Study design, size, duration:**

**The aim of the present study was to compare the efficacy of OCC as compared to that of OV in two prospective large cohorts of patients undergoing FP: 1024 patients undergoing OV and 735 OCC were recruited in between 2005 and 2015 in our FP program at IVI clinics and La Fe University Hospital; the program grants free access to OV and OCC and use the same decision-making algorithm to chose the FP technique.**

**Participants/materials, setting, methods:**

**In the OV cohort, 49 patients came back to use their oocytes and 44 patients came to have their ovarian tissue reimplanted in the OCC cohort. OV was carried out using the cryotop device and OCC was done using a slow freezing protocol. Reimplantations took place orthotopically. Patients were followed up until they used all the oocytes, the lack of function of the reimplanted tissue or the achievement of livebirths.**

**Main results and the role of chance:**

No difference was found between groups regarding AMH levels at FP (OV: 11.6 [5.4-24.7] vs OCC: 11.8 [6.4-21.9]; n.s.). The most prevalent pathologies motivating FP were breast cancer (OV: 60.3%, OCT: 58.6%), Hodgkin lymphoma (OV: 14.2%, OCT: 20.7%; p<0.001) and non-Hodgkin lymphoma (OV: 6.0%, OCT: 3.2%; p<0.001). In the OV cohort, patients used the vitrified oocytes after a mean storage time of 3.9 years. In the OCT cohort, after a mean storage time of 5.5 years. The age at utilization of the cryopreserved material was also similar between groups (OV: 39.0 (3.8) vs OCC: 38.9 (4.1); n.s.). When clinical pregnancy rates (CPR) and live birth rates (LBR) (per patient) were compared between groups, the OV group yielded higher, but not significantly different, CPR (40.8% vs 27.3%) and LBR (32.6% vs 18.2%) than the OCT group.

**Limitations, reasons for caution:**

In some clinical scenarios OV is not feasible and OCC offers a different profile of advantages (mainly endocrine function resumption and the possibility of spontaneous pregnancy). Therefore, recommendations on the choice of these techniques have to be based in individualized criteria, oncologist decision and time prior to treatment.

**Wider implications of the findings:**

Both OV and OCC can be recommended as effective FP techniques.

**Trial registration number:**

Not applicable

COI	I have no potential conflict of interest to disclose
Documents	<a href="#">NIH C. Diaz-Garcia 2016</a>
Keywords	oocyte vitrification ovarian cortex cryopreservation transplantation fertility preservation