

COVID-19: the perspective of Italian embryologists managing the IVF laboratory in pandemic emergency

Sir,

The COVID-19 pandemic is an unprecedented health emergency, which confronts us with a radical change in the management of our work routine and daily life. The epidemic in Italy started on January 30 and, following the spread of cases throughout the whole country, the Government declared the lockdown for several activities and a series of tight restrictions on March 13 to prevent the further worsening of the situation. As we write, in Italy we have not yet reached the peak of the contagion curve and more than 110,500 cases and 13,000 deaths have been registered.

In the field of reproductive medicine, this led to recommendations from the major scientific societies to suspend *in vitro* fertilization (IVF) treatments. The present situation has been well summarized by La Marca *et al.* (2020) with 'COVID-19: Lessons from the Italian Reproductive Medical Experience' (<https://www.fertstertdialog.com/users/16110-fertility-and-sterility/posts/62274-covid-19-inklings>).

We want to endorse their comprehensive and honest description. It is remarkable the authors' aim of accurately describing the measures adopted by Italian IVF clinics to face this unprecedented situation to educate and provide guidance for those countries that must cope with it in the weeks ahead. Even though this emergency demands the precaution of postponing new treatments, each IVF center is also a tissue center; therefore, actions must be taken to preserve fertility in oncologic patients, but above all to ensure the proper maintenance of cryogenic banks.

On behalf of the Italian Society of Embryology, Reproduction and Research, we consider helpful to report the recommendations (prot.02/Italian Society of Embryology, Reproduction and Research, 2020) we issued for Italian IVF laboratory operators to deal with this pandemic, which comply with the notes enacted by our Government (Decreto del Presidente del Consiglio dei Ministri, 2020), the National Health Institute, Italian National Transplant Centre (2020a, 2020b) and Italian ART Registry and the international scientific societies (European Society of Human Reproduction and Embryology, 2020; American Society of Reproductive Medicine, 2020):

- Use proper personal protective equipment (eye protectors, face masks, gloves, shoe covers and disposable laboratory coats).
- Based on staffing levels, whenever possible, facilities should arrange at least two teams that should alternate to limit the virus spread in the event of an operator being infected (e.g. Group A: Gynecologist A, Nurse A, Anesthesiologist A, Embryologist A and Witness A; Group B: Gynecologist B, Nurse B, Anesthesiologist B, Embryologist B and Witness B). In the event that anyone in

Group A (or B) comes into contact with an infected person, only Group A (or B) should be quarantined, therefore guaranteeing the possibility to continue the clinical activity.

- In accordance with what is established in the disaster plan, revise or implement novel emergency procedures and identify external equally skilled embryologists to replace the internal staff, in case all staff are quarantined.
- Minimize, if not even entirely prevent, contact with external personnel (clinicians, nurses, obstetricians, etc.).
- Avoid any contact with the patients and, if not avoidable, keep 1-m distance and use a proper face mask.
- Train the internal personnel (clinicians, nurses, etc.) how to refill the cryo-banks in order to safeguard the cryopreserved material in case of the lab staff being quarantined.
- In the absence of electronic witnessing systems, outline lean protocols to conduct the clinical procedures thereby minimizing the need for physical witnessing (e.g. external personnel properly equipped, telematic witnessing, etc.).
- Sanitize the environment, equipment and devices with appropriate detergents (solutions of quaternary ammonium) at the end of each procedure or after each access to the workplace.
- Plan an exceptional test of the alarm remote control system.

From the medical perspective, as well as from the embryological one, the current situation is fluid. Novel clinical restrictions and/or evidence might arise in the following weeks and these recommendations shall be subject to future revises.

As a scientific society representative of the Italian embryologists, we want to express our solidarity towards the entire community of professionals (researchers, clinicians, nurses, biologists, etc.) working hard to overcome this pandemic, as well as to the IVF experts (clinicians, embryologists, technicians, psychologists, etc.) and patients worldwide who must deal with an unprecedented and uncertain reproductive situation.

References

- American Society of Reproductive Medicine. *Patient management and clinical recommendations during the coronavirus (covid-19) pandemic (as of March 17, 2020)*. <https://www.asrm.org/globalassets/asrm/asrm-content/news-and-publications/covidtaskforce.pdf>, (as of 30 March 2020 accessed) <https://www.asrm.org/globalassets/asrm/asrm-content/news-and-publications/covid-19/covidtaskforceupdate1.pdf>.
- Decreto del Presidente del Consiglio dei Ministri. *Ulteriori disposizioni attuative del decreto-legge 23 febbraio 2020, n. 6, recante misure urgenti in materia di contenimento e gestione dell'emergenza epidemiologica da COVID-19. (20A01522) (GU Serie Generale*

- n.59 del 08-03-2020). <https://www.gazzettaufficiale.it/eli/gu/2020/03/08/59/sg/pdf>, (8 March 2020, date last accessed).
- European Society of Human Reproduction and Embryology. *News and Statements. Coronavirus Covid-19: ESHRE statement on pregnancy and conception*. <https://www.eshre.eu/Press-Room/ESHRE-News>, (14 March 2020, date last accessed).
- Italian National Transplant Centre. *Misure di prevenzione della trasmissione dell'infezione da nuovo coronavirus (SARS-CoV- 2) in Italia per le cellule riproduttive e i trattamenti di PMA (procreazione medicalmente assistita)—CNT—Prot. 504/CNT 2020*. http://www.trapianti.salute.gov.it/imgs/C_17_cntAvvisi_232_0_file.pdf, (3 March 2020a, date last accessed).
- Italian National Transplant Centre *Misure di prevenzione della trasmissione dell'infezione da nuovo coronavirus (SARS-CoV- 2) in Italia per le cellule riproduttive e i trattamenti di PMA (procreazione medicalmente assistita)—CNT—Prot. 605/CNT 2020*. http://www.trapianti.salute.gov.it/imgs/C_17_cntAvvisi_233_0_file.pdf, (17 March 2020b, date last accessed).
- Italian Society of Embryology, Reproduction and Research. *EMERGENZA COVID-19: raccomandazioni SIERR per il Laboratorio di PMA* https://www.sierr.it/images/Documenti/Raccomandazioni_SIERR_per_COVID-19.pdf, 2020.
- La Marca A., Niederberger C, Pellicer A, Nelson SM., *COVID-19: lessons from the Italian Reproductive Medical Experience*. <https://www.fertsterdialog.com/users/16110-fertility-and-sterility/posts/62274-covid-19-inklings>, (19 March 2020, date last accessed).
- Lucia De Santis*, Attilio Anastasi, Danilo Cimadomo, Francesca Gioia Klinger, Emanuele Licata, Valerio Pisaturo, Laura Sosa Fernandez, and Catello Scarica
Italian Society of Embryology, Reproduction and Research (SIERR), Via Rosmini 34, 95014 Giarre CT, Italy
- *Correspondence address. Italian Society of Embryology, Reproduction and Research (SIERR), Via Rosmini 34, 95014 Giarre CT, Italy.
E-mail: l.desantis68@gmail.com
- doi:10.1093/humrep/deaa074