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Prepared by the ESHRE COVID-19 working group

# Collection of data on ART pregnancies impacted by COVID-19

## Report 1.2

The Covid-19 pandemic largely impacted on ART services during the spring 2020, with European ART centres closing or reducing their activities for an average of 49 days between 1 March and 1 June 2020 (Vermeulen, et al., 2020).

In its statements for phase 1 – “Guidance on fertility services during pandemic”, ESHRE recommended that assisted reproduction treatments should not be started to, among other reasons, avoid potential SARS-CoV-2 related complications during pregnancy (ESHRE statement April 2020). Although data have since been published on spontaneous pregnancies in women affected by COVID-19 disease (Delahoy et al, 2020), the effect of SARS-CoV-2 infection on pregnancies resulting from assisted reproduction is still unclear.

The possible effects of maternal SARS-CoV-2 infection on pregnancies resulting from assisted reproduction are an important piece of information for patient counseling. An ESHRE call for submission of known cases of SARS-CoV-2 infection in women pregnant from assisted reproduction was therefore launched in May 2020 and repeated through monthly mailings to the ESHRE membership. We here present the up to date collated information and wish to thank all practitioners that have taken time to share the data and contribute to this emerging evidence aimed at improving counselling for patients undergoing ART during the pandemic.

### Data collection

Pregnancy specific data were collected through an online form, available via [www.eshre.eu/covid19/survey](http://www.eshre.eu/covid19/survey)



The questionnaire consists of 4 sections:

- Background information, including contact information of the person submitting the case
- Information on the COVID-19 infection
- Information on the pregnancy
- Information on obstetric and neonatal outcomes

In total, the questionnaire includes 21 questions (see ANNEX 1).

**The collection of data is ongoing and we encourage practitioners globally to submit their cases via [www.eshre.eu/covid19/survey](http://www.eshre.eu/covid19/survey)**

Only through this global collaboration we can answer important questions related to the impact of COVID 19 disease on patients and their pregnancies established after ART therapy. To paraphrase a famous American President it is time to ask ourselves “What can we all do for ESHRE and our community and help to realize what ESHRE can do for us all.”

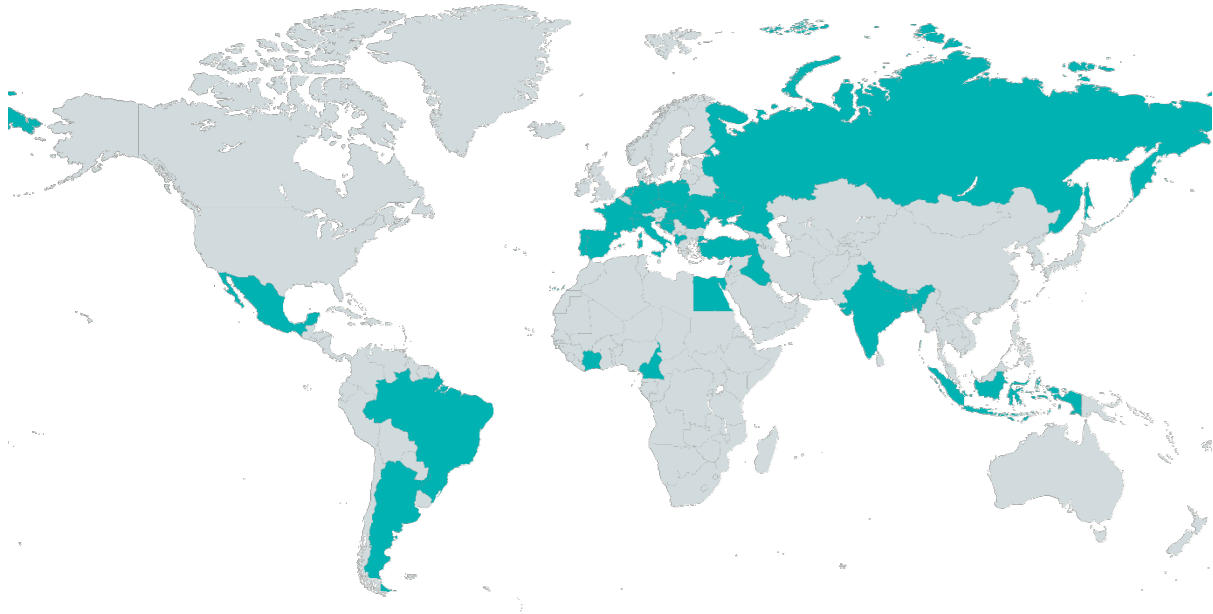
### Results (dd 10/06/2021)

Only entries with information on country and reporting a confirmed (or clinically based strong suspicion of) COVID-19 infection in the patient were considered for inclusion (see Figure 1).

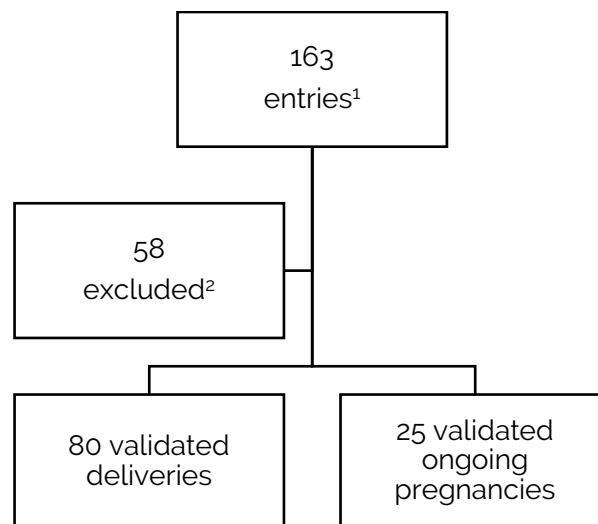
These entries were confirmed by contacting the data submitter with a summary of the reported case and requesting validation of the case (see Figure 2).

The data analysis and this report will be updated no later than 15/09/2021

*Figure 1. World map with indication (in green) of countries where at least 1 case was reported and validated*



*Figure 2. Flowchart of case validation*



<sup>1</sup> Entries with at least information on country; a positive reply on the first case-related question "Was the COVID-19 infection in the patient confirmed with laboratory tests?"; and in which a pregnancy was established

<sup>2</sup> Exclusion criteria: cases with incomplete data on delivery (6) or that could (not yet) be validated (52)

## References

ESHRE, ART and COVID-19. A Statement from ESHRE. Phase 1: ESHRE Guidance on Fertility Services during pandemic. (1 April 2020). Available through [https://www.eshre.eu/Press-Room/ESHRE-News#COVID19\\_April2](https://www.eshre.eu/Press-Room/ESHRE-News#COVID19_April2)

ESHRE COVID-19 working group, et al. A picture of medically assisted reproduction activities during the COVID-19 pandemic in Europe. HR open. 2020;2020b: hoaa035. <https://doi.org/10.1093/hropen/hoaa035>

Delahoy MJ, Whitaker M, O'Halloran A, et al. Characteristics and Maternal and Birth Outcomes of Hospitalized Pregnant Women with Laboratory-Confirmed COVID-19 — COVID-NET, 13 States, March 1–August 22, 2020. MMWR Morb Mortal Wkly Rep 2020;69:1347–1354. DOI: [http://dx.doi.org/10.15585/mmwr.mm6938e1external icon](http://dx.doi.org/10.15585/mmwr.mm6938e1external%20icon).

## ANNEX 1: Questionnaire

### Background information

1. In what country do you work?

2. Are you reporting a case from a private or a public centre?

- Public centre  
 Private centre

3. Your profession is:

- Gynaecologist  
 ART clinician  
 Nurse  
 Embryologist  
 Other, please specify: .....

4. Please enter a patient reference number from your clinic

*The patient reference number can be used for submitting further details of the case at a later stage via email to [nathalie@eshre.eu](mailto:nathalie@eshre.eu). Please note that this reference number should not contain any patient identifiers.*

5. Please add your email address so we can contact you for further updates on this case, or to verify the provided information. We will not consider cases for which we cannot double check the information.

### Information on the COVID-19 infection

6. Was the COVID-19 infection in the patient confirmed with laboratory tests?

- Yes, by RT-PCR  
 Yes, by antibody test  
 No, but there is a strong suspicion of a COVID-19 infection  
 No

7. At what stage of the pregnancy did the patient have symptoms and was tested?

- During the MAR treatment (including 15 days after embryo transfer)  
 First trimester  
 Second trimester  
 Third trimester  
 At delivery

8. Which symptoms did the patient have (you can tick more than 1 answer)?

- High fever (>37,5°C)  
 Cough  
 Pneumonia  
 Anosmia (no smell)

- Ageusia (Loss of taste)
- Gastrointestinal symptoms
- No symptoms
- Other respiratory symptoms, please specify.....

**9. Was the patient hospitalized?**

- No
- Yes, in a general ward
- Yes, with respiratory support
- Yes, in the intensive care unit
- Yes, in the intensive care unit with respiratory support

**10. Are you aware of antiviral treatments used?**

- I do not have this information
- Yes, please specify .....

**11. Did the patient recover?**

- No, the patient died
- No, the patient is/was still in recovery
- Yes, if she was hospitalized, please specify the duration of hospitalization: ..... days

## Information on the pregnancy

**12. How did the patient achieve pregnancy?**

- Ovulation induction
- IUI
- IVF
- ICSI
- Donor IUI
- Donor sperm IVF/ICSI
- Oocyte donation
- FER (frozen embryo replacement)
- FOR (frozen oocyte replacement)
- PGT-A
- PGT-M
- PGT-SR
- Surrogacy
- Embryo donation

## Information on obstetric and neonatal outcomes

**13. Please provide any relevant medical background history for the patient (what diseases did she suffer from?)**

**14. Where there any pregnancy complications (please tick all answers relevant)**

- There were no pregnancy complications
- Miscarriage
- Ectopic pregnancy
- Excessive bleeding
- Pre-eclampsia
- Intrauterine growth restriction

- Stillbirth
- Preterm birth (< 37 weeks)
- Very preterm birth (< 32 weeks)
- Extremely preterm birth (< 28 weeks)
- Maternal death
- Other, please specify .....

**15. What was the mode of delivery?**

- Vaginal
- Emergency C-section
- Scheduled C-section

**16. What was the gestational age at delivery (in weeks) ?**

**17. Where there any neonatal complications? (please tick all answers relevant)**

- There were no neonatal complications
- Respiratory symptoms
- Fever
- Other, please specify .....

**18. What was the birth weight of the newborn?**

- Normal (> 2500g)
- Low (< 2500g)
- Very low (< 1500g)
- Extremely low (< 1000g)

**19. What were the APGAR scores?**

At 1 minute:

At 5 minutes

**20. Was the COVID-19 infection tested in the newborn?**

- |                   |   |
|-------------------|---|
| RT-PCR test       | <input type="checkbox"/> Positive test result<br><input type="checkbox"/> Negative test result<br><input type="checkbox"/> Not tested |
| IgM antibody test | <input type="checkbox"/> Positive test result<br><input type="checkbox"/> Negative test result<br><input type="checkbox"/> Not tested |
| IgG antibody test | <input type="checkbox"/> Positive test result<br><input type="checkbox"/> Negative test result<br><input type="checkbox"/> Not tested |

*Please comment or provide further details:*

**21. Please make any further comments with regards to this case**