

Placental histological findings in COVID-19 term, preterm and metabolic disorders pregnancy

Giulia Monaco ^{1,2,*}, Barbara Villaccio ¹, Elvira Nocita ^{1,2}, Piercarlo Langiano ^{1,2}, Luana Licata ³, Silvia Scarpini ³, Marco Bonito ¹

¹Department of Obstetrics and Gynecological Clinic, San Pietro Fatebenefratelli Hospital, Rome, Italy.

²Department of Surgical Sciences Obstetrics and Gynecological Clinic, University of Rome Tor Vergata, Rome, Italy.

³Department of Clinical Pathology, Hystology Service, San Pietro Fatebenefratelli Hospital, Rome, Italy.

DOI: 10.36129/jog.2022.S66

Objective. In the last two years COVID-19 infection has represented a true unknown in the management of pregnancies with maternal COVID-19 positivity. However, it has not represented a serious complication, indeed it has rarely caused premature rupture of the membrane, fetal thrombosis or post-natal complications.

Materials and Methods. Our retrospective cohort study included placental samples from 350 patients from San Pietro Fatebenefratelli Hospital collected in a period of 4 months. Inclusion criteria were COVID-19 positivity during childbirth or in the previous two months but also a pregnancy without previous COVID-19 infection. Anamnestic data were carried out for the histological study on each placenta. 59% of patients were COVID-19 positive (15% of these had other associated disorders like gestational diabetes, hypertension, fetal death, preterm birth) 26.5%

were preterm and the 14,5% were high-risk pregnancy with COVID-19 negativity.

Results. The most frequently represented lesion in a COVID-19 placenta was a mild chronic deciduitis, usually absent in placentas with normal outcome. The same deciduitis was observed in gestational diabetes placentas, although less frequently. Other rare findings were patchy fibrinoid necrosis of capsular decidua, chronic villitis, umbilical cord thrombosis. Severe lesions were rare.

Conclusions. COVID-19 does not seem to have a severe impact on the health of the placenta except in rare cases in which predisposing factors coexist and determine a more serious involvement of the fetus and its appendages. COVID-19 determines a constant but mild chronic placental inflammation, that is balanced by the maternal capacity to maintain homeostasis stemming the external injuries.