

SARS-CoV-2 – placental effects and association with stillbirth

Abi Merriel¹, Brendan Fitzgerald², and Keelin ODonoghue³

¹University of Liverpool

²Cork University Hospital

³University College Cork

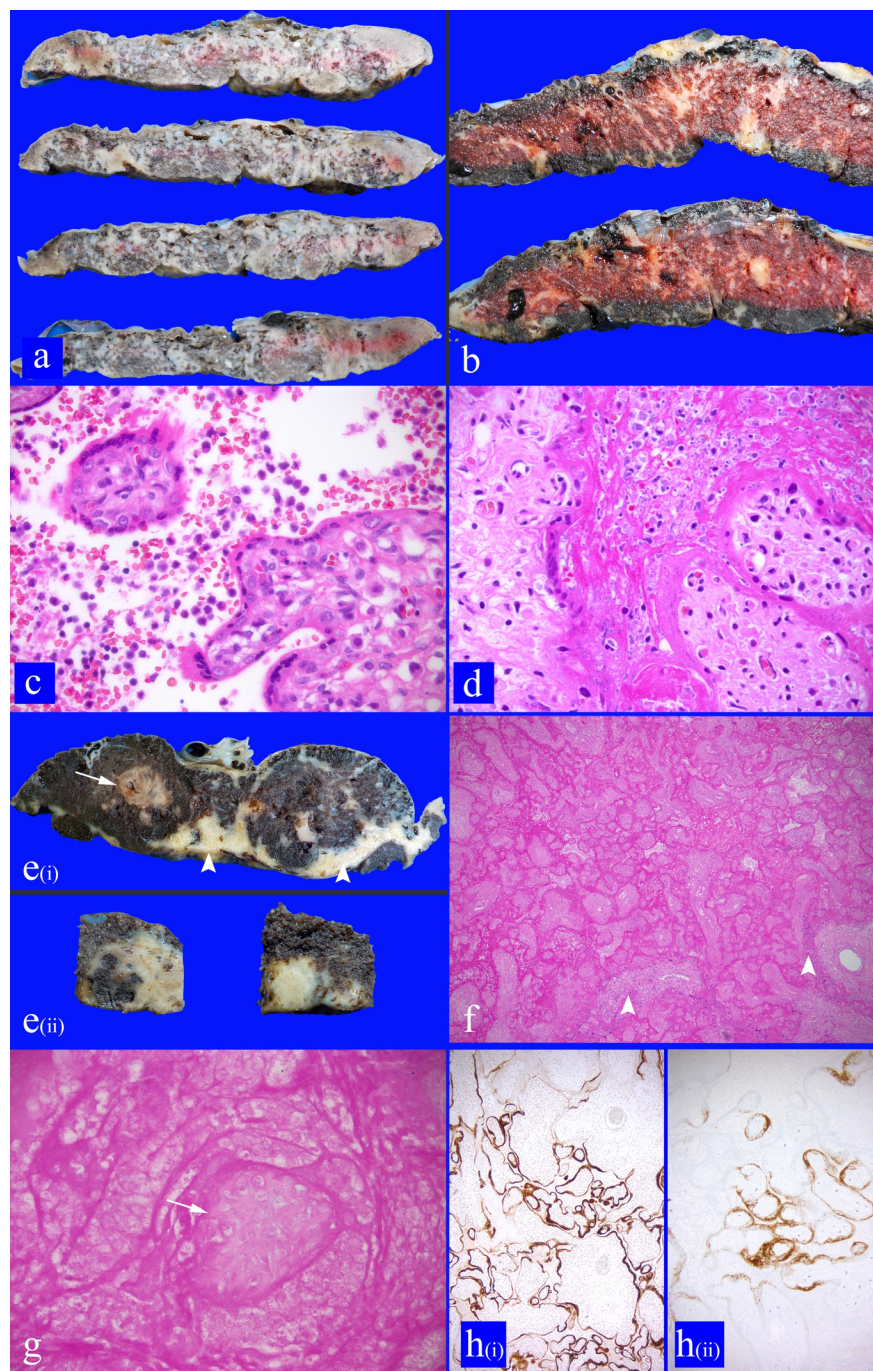
June 19, 2023

Abstract

SARS-CoV-2 has had a significant impact on pregnancy outcomes due to the effects of the virus and the altered healthcare environment. Stillbirth has been relatively hidden during the COVID-19 pandemic, but a clear link between SARS-CoV-2 and poor fetal outcome emerged in the Alpha and Delta waves. A small minority of women/birthing people who contracted COVID-19 developed SARS-CoV-2 placentitis. In many reported cases this was linked to intrauterine fetal death, although there are cases of delivery just before imminent fetal demise and we shall discuss how some cases are sub-clinical. What is surprising, is that SARS-CoV-2 placentitis is often not associated with severe maternal COVID-19 infection, and this makes it difficult to predict. The worst outcomes seem to be with diffuse placental disease and occurs within 21 days of COVID-19 diagnosis. Poor outcomes are often pre-dated by reduced fetal movements, but are not associated with ultrasound changes. In some cases, there has also been maternal thrombocytopenia, or coagulation abnormalities, which may provide a clue as to which pregnancies are at risk of fetal demise if a further variant of concern is to emerge. In future, multidisciplinary collaboration and cross-boundary working must be prioritised, to quickly identify such a phenomenon and provide clinicians with clear guidance for reducing fetal death and associated poor outcomes. Whilst we wait to see if COVID-19 brings a future variant of concern, we must focus on appropriate future management of women who have had SARS-CoV-2 placentitis. The histopathology reports with pathologies of chronic histiocytic villitis and/or massive perivillous fibrin deposition fill clinicians with concern about future pregnancy outcomes. However, we must remember, that in the context of a cause (SARS-CoV-2) and no other history of concern, it is not likely that SARS-CoV-placentitis will recur, and thus a measured approach to subsequent pregnancy management is needed.

Hosted file

SarsCoV2 Stillbirth placenta_150623_no tables.docx available at <https://authorea.com/users/630651/articles/650338-sars-cov-2-placental-effects-and-association-with-stillbirth>



Hosted file

figure 1 legend.docx available at <https://authorea.com/users/630651/articles/650338-sars-cov-2-placental-effects-and-association-with-stillbirth>

Hosted file

Key points box.docx available at <https://authorea.com/users/630651/articles/650338-sars-cov-2-placental-effects-and-association-with-stillbirth>

Hosted file

Table 1 variants of concern 070323.docx available at <https://authorea.com/users/630651/articles/650338-sars-cov-2-placental-effects-and-association-with-stillbirth>

Hosted file

Table 2 Prevalance of placentitis table 140623.docx available at <https://authorea.com/users/630651/articles/650338-sars-cov-2-placental-effects-and-association-with-stillbirth>

Hosted file

Table 3 Summary table for paper_140623.docx available at <https://authorea.com/users/630651/articles/650338-sars-cov-2-placental-effects-and-association-with-stillbirth>