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Assignment

The 2019 Coronavirus epidemic, provisionally called 2019-nCoV was first identified in Wuhan, China. In persons exposed to a seafood or wet market. It is feasible that potentially infectious samples may be received in histopathology laboratories for diagnosis. Using data obtained from similar coronaviruses, e.g. severe acute respiratory syndrome (SARS) and middle east respiratory syndrome (MERS) experts are confident that 70% ethanol and 0.1% sodium hypochlorite should inactivate the virus. Formalin fixation & heating samples to 56°C as used in routine tissue processing, were found to inactivate several coronaviruses and it is believed that 2019-nCoV would be similarly affected. This coronavirus is an acute resolved disease but it can also be deadly, with a 2% case fatality rate. Severe disease onset might result in death due to massive alveolar damage and progressive respiratory failure. WHO named the virus COVID-19 the Coronavirus Study Group of the International Committee on Taxonomy of Viruses. Severe Acute Respiratory Syndrome Coronavirus 2 or SARS-CoV-2. Histopathology laboratories are often fortunate in that routine histotechnology processes often inactivate many viruses & bacteria. Barnell et al determined that formalin and glutaraldehyde inactivated SARS-CoV in a temperature. In this case study, core biopsies were taken from lung, findings of the accompanying patient liver and heart. Based on the quality of the accompanying photomicrographs, it seems that the core biopsies were fixed in formalin processed through to paraffin & sections stained with H&E. Paraffin infiltration in most histopathology laboratories uses a temperature of 60-65°C for 1hr or more. It is therefore appropriate to consider that the formalin fixed paraffin embedded tissue block would have a low risk of

Coronavirus Infectivity.

Based on the previous discussion, it appears prudent to refrain from performing frozen sections on possible cases of 2019-nCoV unless the laboratory is confident in containing aerosols in the operating room. The same consideration should be applied to the grossing of partially fixed specimens that appears based on the limited autopsy study by Xu et al. that only lung tissues exhibit microscopic evidence of 2019-nCoV infection, whereas no viral change was noted in liver and cardiac muscle.

In conclusion, it is recommended that appropriate safety precautions be taken, and we can be assured that formalin fixation and paraffin embedding should inactivate 2019-nCoV.