

Develop – DeVos Cardiovascular Research Program’s Emergency Letter on the Pandemic

Scientific Stream Update on the COVID-19 Pandemic – 4.21.20, 1100

Spectrum Health contact: Stefan Jovinge, MD

Case Report on a Successful Recovery of a Patient with Active CLL and COVID-19

Article Title: *COVID-19 in a patient with chronic lymphocytic leukaemia*

[www.thelancet.com/journals/lanhae/article/PIIS2352-3026\(20\)30074-0/fulltext](http://www.thelancet.com/journals/lanhae/article/PIIS2352-3026(20)30074-0/fulltext)

Source: *Lancet*

Clinical Field: *Hematology*

Article Type: *Other*

Study Type: *Other*

Patient Group: *CLL with COVID-19*

Intervention: *Case Report of a COVID-19 Patients*

Reviewer	<i>Stefan Jovinge</i>
Study Design	<i>N/A</i>
Study Design Concerns	<i>Single Case Report</i>
Main Results	<p><i>Patient treated for non-Hodgkin lymphoma 2007 and CLL since Nov 2018. Patient presented with fever, cough and Lymphocyte count $91.85 \times 10^9/L$ 95% Lymphocytes, Hgb 85 g/L, Trc $79 \times 10^9/L$. CRP 21.5 mg/L.</i></p> <p><i>Management through:</i></p> <ol style="list-style-type: none"> <i>1. Chlorambucil 2mg bid (reduced dose)</i> <i>2. Nebulized Interferon 5,000,000 U bid</i> <i>3. Intravenous human immunoglobulin (20 g) once per day,</i> <i>4. Intravenous methylprednisolone (40 mg) every 12 h</i>
Comments	<i>Case report of successful management of a CLL patient with COVID-19</i>

SARS-CoV-2 Seems to have Longer Period of Infectivity than Previous SARS

Article Title: *Duration for Carrying SARS-CoV-2 in COVID-19 Patients*

www.ncbi.nlm.nih.gov/pubmed/32283161

Source: *J of Infection*

Clinical Field: *Infectious Disease*

Article Type: *Clinical Study*

Study Type: *Retrospective Study*

Patient Group: *COVID-19 patients*

Intervention: _____

Reviewer	<i>Meredith Busman</i>
Study Design	<i>Minor concerns</i>
Study Design Concerns	<i>No definitive way to know when patients actually contracted the disease, since duration start date was defined by date of patient exposure rather than first known positive nucleic acid test</i>
Main Results	<i>This was a retrospective study of 161 patients in Henan Province, China, examining the duration for SARS-CoV-2 carrying, which was defined as the time from a close contact with the presumed source of infection to the last positive test for COVID-19 virus. The median duration for carrying SARS-CoV-2 was 21 days in males and 20 days in females with no significant difference between groups ($p > 0.05$). Duration was significantly longer for patients 60 years or older compared to younger patients, with a median time of 28 days and this difference was statistically significant ($p < 0.01$). Patient with severe type COVID-19 infections had a statistically significant longer median carrying duration of 27 days, compared to 20 days in the non-severe group.</i>
Comments	<i>SARS-CoV-2, the virus responsible for COVID-19 is characterized by high contagiousity, quick transmission and general susceptibility. When compared to SARS-CoV, the virus causing the current pandemic seems to have a longer period of infectivity which complicates disease control measures. The longer period of infectivity seen in elderly patients may contribute to persistent alveolar inflammation and subsequently serious disease more commonly seen in this demographic.</i>

Tocilizumab Treatment Comes With an Initial IL-6 Increase

Article Title: *Tocilizumab treatment in COVID-19: A single center experience*

<https://onlinelibrary.wiley.com/doi/full/10.1002/jmv.25801>

Source: *J Med Virol*

Clinical Field: *Infectious Disease*

Article Type: *Clinical Report*

Study Type: *Non-Randomized Controlled Trial*

Patient Group: *COVID-19 patients; moderately, severely and critically ill*

Intervention: *Tocilizumab*

Reviewer	<i>Ambaris Singh</i>
Study Design	<i>Major Concerns</i>
Study Design Concerns	<ul style="list-style-type: none"> <i>*Not enough patients enrolled in study (n=15)</i> <i>*Skewed distribution of gender (12 male, 3 female)</i> <i>*Two-thirds of patients had one or more co-morbidities, which could be a confounding factor</i> <i>*Too many confounding variables, some patients received multiple Tocilizumab doses, some had combo with methylprednisolone, wide range of TCZ doses</i>
Main Results	<ul style="list-style-type: none"> <i>*Tocilizumab helped decrease the already elevated CRP in all patients.</i> <i>*75% of critically ill patient died regardless of treatment, with the other 25% unable to return to CRP within normal limits</i> <i>*IL-6 level spiked after first TCZ dose, but then decreased in 66% of patients.</i> <i>*For those critically ill patients with elevated IL-6, repeated dose of TCZ is recommended</i>
Comments	<p><i>There are two major glaring issues with this study, the first being that the number of patients is so low, the results can not be considered reliable. Secondly, there are so many confounding variables with treatment regimens an stratification of patients.</i></p>

International Panel's Advice for Chest Imaging in COVID-19 Patients

Article Title: *The Role of Chest Imaging in Patient Management during the COVID-19 Pandemic: A Multinational Consensus Statement from the Fleischner Society*

<https://pubs.rsna.org/doi/10.1148/radiol.2020201365>

Source: *CHEST*

Clinical Field: *Other*

Article Type: *International Document*

Study Type: _____

Patient Group: *OVID-19*

Intervention: *N/A*

Reviewer	<i>Stefan Jovinge</i>
Study Design	<i>N/A</i>
Study Design Concerns	<i>International White Paper/Position Statement from 15 thoracic radiologists, 9 Pulmonologists/intensivists, 1 anesthesiologist/intensivist.</i>
Main Results	<p><i>Summary of recommendations fro imaging:</i></p> <p><i>Main Recommendations</i></p> <ul style="list-style-type: none"> <i>· Imaging is not routinely indicated as a screening test for COVID-19 in asymptomatic individuals</i> <i>· Imaging is not indicated for patients with mild features of COVID-19 unless they are at risk for disease progression</i> <i>· Imaging is indicated for patients with moderate to severe features of COVID-19 regardless of COVID-19 test results</i> <i>· Imaging is indicated for patients with COVID-19 and evidence of worsening respiratory status</i> <i>· In a resource constrained environment where access to CT is limited, CXR may be preferred for patients with COVID-19 unless features of respiratory worsening warrant the use of CT</i> <p><i>Additional Recommendations</i></p> <ul style="list-style-type: none"> <i>· Daily chest radiographs are NOT indicated in stable intubated patients with COVID-19</i> <i>· CT is indicated in patients with functional impairment and/or hypoxemia after recovery from COVID-19</i> <i>· COVID-19 testing is indicated in patients incidentally found to have findings suggestive of COVID-19 on a CT scan</i>
Comments	<i>This is a position statement from an international panel.</i>

1 in 6 COVID-Patients Have Pancreatic Stress

Article Title: *Pancreatic injury patterns in patients with COVID-19 pneumonia*

www.ncbi.nlm.nih.gov/pubmed/32247022

Source: *Gastrojournal*

Clinical Field: _____

Article Type: _____

Study Type: *Retrospective Study*

Patient Group: *COVID-19 Single Center Experience*

Intervention: *Observational*

Reviewer	<i>Stefan Jovinge</i>
Study Design	<i>Major Concerns</i>
Study Design Concerns	<i>Observational study with historic controls. Insufficient description of the controls. Cardiac injury was determined by inspecific markers (LDH or CK)</i>
Main Results	<i>n=52 - 33% had signs of cardiac injury (LDH or CK) - 29% had signs of liver injury (AST, ALT,GGT, ALP) - 8% had renal impairment (Creatinine) - 17% had signs of pancreatic injury (amylase, The patients with pancreatic injury have: Compared with the patients without pancreatic injury, those with pancreatic injury had a higher incidence of anorexia and diarrhea, severer illness on admission, lower level of CD3+ T-cell and CD4+ T-cell, higher level of AST, GGT, creatinine, LDH and ESR.</i>
Comments	<i>Signs of pancreatic injury in 1/6 of COVID-19 patients. These patients tend to have lower levels of lymphocytes, diarrhoea and Liver markers beside amylase elevation.</i>

American Acad of Ped Guidelines for Newborns to COVID-19 Mothers

Article Title: *Management of Infants Born to Mothers with COVID-19*

<https://downloads.aap.org/AAP/PDF/COVID%2019%20Initial%20Newborn%20Guidance.pdf>

Source: *American Academia of Pediatrics Guidelines*

Clinical Field: *Other*

Article Type: *National Document*

Study Type: *Other*

Patient Group: *Neonates born to COVID-19 patients*

Intervention: *Guideline*

Reviewer	Vinu Perinjelil
Study Design	N/A
Study Design Concerns	<p>1) limited literature to cite on the topic of perinatal transmission and documented cases of maternal COVID-19 cases; would be useful to have a centralized US bank/registry reviewing guidelines used and associated outcomes</p> <p>2) no specific recommendations on optimal mode of delivery for infected mothers to assess maternal and infant morbidity and mortality</p> <p>2) details lacking on perinatal factors like duration of rupture of membranes and severity of maternal illness in the cases cited</p> <p>3) more evidence needed to assess role of breastfeeding in promoting or protecting newborns and the impacts of maternal separation from newborn. literature did not include practical application of how centers handled breastfeeding and maintained separation, therefore no outcome comparison can be made</p>
Main Results	<p>This report outlines optimal guidance of care for infants born to mothers with COVID-19 since there is considerable uncertainty regarding potential for vertical transmission and these infants are consequently considered PUI (persons under investigation). It is still unknown whether maternal fluids are infectious and whether it is transmitted transplacentally. Currently, evidence to date shows there is low rates of peripartum transmission and is speculative about the in utero transmission of SARS-CoV-2 from mothers with COVID-19 to their newborns. Conclusions from studies on maternal COVID-19 cases show that the majority of illness occur in the 3rd trimester, are delivered via c-section, and implement immediate separation of mother/newborn. 1 report of pediatric patients in China found out of 86/731 (11.8%) confirmed cases among infants less than 1 yo, 21/86 (24%) suffered critical/severe illness.</p> <p>Therefore, newborns can and have acquired COVID-19 and airborne, droplet and contact precautions is essential when attending deliveries from women with COVID-19 due to maternal virus aerosols and the potential need for</p>

	<p>newborn resuscitation to potentially infected infants. Newborns should be separated at birth from mothers with COVID-19 and if this is refused by the mother, this should be documented and mother educated on the risk of newborn development of COVID-19. Newborns should be bathed immediately and if needing intensive care admitted to a single patient room with negative room pressure if possible. SARS has not been detected in breast milk to date, and mothers can express breast milk to feed infants until specific maternal criteria is met. Testing for infants born to mothers with COVID-19 should occur at 24 hours and if still in hospital at 48 hours. Newborns with documented SAR-CoV-2 requires frequent patient follow up via telephone, telemedicine, or in person up to 14 days after discharge. After discharge, a mother with COVID-19 is recommended to maintain 6 feet distance from their newborn and when in close proximity use mask and hand hygiene. This would continue until a) she is afebrile for 72 hours without antipyretics AND b) at least 7 days has passed since symptoms first appeared. A mother with COVID-19 whose infant requires ongoing care in hospital should maintain separation until a) she is afebrile for 72 hours without use of antipyretics and b) her respiratory symptoms improved and c) negative results are obtained from 2 consecutive SARS-CoV-2 nasopharyngeal swabs collected 24 hours apart.</p>
<p>Comments</p>	<p>Anticipatory guidance is helpful in management, further information is needed to guide more specific recommendations and help provide a natural history of disease in pregnant women</p>

Retrospective Trial: Hydroxychloroquine No Clinical Effect on COVID-19

Article Title: No evidence of clinical efficacy of hydroxychloroquine in patients hospitalised for COVID-19 infection and requiring oxygen: results of a study using routinely collected data to emulate a target trial

www.medrxiv.org/content/10.1101/2020.04.10.20060699v1

Source: MEDRXIV

Clinical Field: Infectious Disease

Article Type: Clinical Study

Study Type: Retrospective Study

Patient Group: COVID-19 patients of mixed severity

Intervention: Hydroxychloroquine

Reviewer	Stefan
Study Design	Major Concerns
Study Design Concerns	Retrospective study. In the treatment group the treatment was heterogeneous; either Hydroxychloroquine (HCQ) alone or with concomitant azithromycin or with concomitant amoxicillin/clavulanic acid.
Main Results	HCQ gave 9.5% ECG that prevented further HCQ after in median 4 days. The population of patients hospitalized because they required oxygen is very similar to that reported by others, as well as the percentage of patients transferred to the ICU as reported earlier.
Comments	HCQ not associated with a reduction of admissions to ICUs or death 7 days after hospital, rate of ARDS admission, compared to standard of care alone.

Simulation Shows: COVID-19 Might Be a Healthcare Problem Until 2024

Article Title: Projecting the transmission dynamics of SARS-CoV-2 through the postpandemic period

<https://science.sciencemag.org/content/early/2020/04/14/science.abb5793>

Source: Science

Clinical Field: Other

Article Type: Clinical Report

Study Type: _____

Patient Group: SARS-CoV-2

Intervention: Simulated degrees of

Reviewer	Stefan Jovinge
Study Design	N/A
Study Design Concerns	Simulated viral study based on cold viruses
Main Results	<p>Factors taken into account are:</p> <ul style="list-style-type: none"> - Seasonability - Duration of immunity - Effect of social distancing with different effectivity <p>In summary social distancing, based on the experiences will not reduce the total number of cases. If no vaccin social distances precautions may be needed until 2024 before things wean off if immunity is achieved.</p>
Comments	Emphasized the need to follow immunity by Ab tests and probably until 2024.