2019-nCoV Literature Situation Report (Lit Rep)
March 5, 2020

The scientific literature on COVID-19 is rapidly evolving and these articles were selected for review based on their relevance to Washington State decision making around COVID-19 response efforts. Included in these Lit Reps are some manuscripts that have been made available online as pre-prints but have not yet undergone peer review. Please be aware of this when reviewing articles included in the Lit Reps.

Key Takeaways

- **Two articles have outlined specific recommendations for managing gynecological and obstetric care for pregnant women diagnosed with COVID-19.**
- **Genetic recombination of SARS-CoV-2 has been identified across multiple studies, suggesting that there may be changes in the accuracy of diagnostic testing, effectiveness of current treatment protocols, and disease transmissibility.**
- **In line with prior reports, new evidence indicates that household contacts and those travelling with known COVID-19 patients appear to be at significantly greater risk of contracting the disease compared to others.**

Non-Pharmaceutical Interventions

- Social distancing measures in Zhejiang Province appear to have reduced COVID-19 transmission. Authors suggest the study findings may be particularly relevant to high-risk regions.

  Chong et al. (Mar 5, 2020). Monitoring Disease Transmissibility of 2019 Novel Coronavirus Disease in Zhejiang, China. Pre-print downloaded Mar 5 from https://doi.org/10.1101/2020.03.02.20028704

Transmission

- This report summarizes the epidemiology of 391 COVID-19 patients in Shenzhen China and 1,286 close contacts. Rather than reporting on cases identified through symptom surveillance, this study offers a better estimation of how COVID-19 looks more broadly in the population by relying on contact tracing.
- In addition to clinical details, findings indicate that household contacts and those travelling with known cases were at 6 and 7 times greater risk of infection, respectively, compared to those who were not household contact and not co-travelers. Children were found to be at similar risk of infection but not of severe illness.

  Bi et al. (Mar 4, 2020). Epidemiology and Transmission of COVID-19 in Shenzhen China: Analysis of 391 cases and 1,286 of their close contacts. Pre-print downloaded Mar 5 from https://doi.org/10.1101/2020.03.03.20028423

- COVD-19 transmission pathways remain only partially understood. This commentary reviews what is known and what is still under study.

Han et al. (Mar 4, 2020). Uncertainties about the transmission routes of 2019 novel coronavirus. Influenza and Other Respiratory Viruses. https://doi.org/10.1111/irv.12735

Testing and Treatment

- A COVID-19 patient in Singapore was initially misdiagnosed by a false-positive dengue rapid test, underscoring the importance of formalizing rapid and accessible diagnostic tests with high sensitivity and specificity.

  Yan et al. (Mar 4, 2020). Covert COVID-19 and false-positive dengue serology in Singapore. Lancet Infect Dis. https://doi.org/10.1016/S1473-3099(20)30158-4

Clinical Characteristics and Health Care Setting

- An environmental hygiene study was conducted at a COVID-19 outbreak center in Singapore. Samples included surface samples taken at 26 sites, air samples, and PPE samples from physicians leaving patient rooms. Authors also describe sampling results post-cleaning. Overall, contamination via respiratory droplets and fecal shedding were a primary concern with findings emphasizing the importance of proper infection control and hygiene practices.

  Xiang et al. (Mar 4, 2020). Air, Surface Environmental, and Personal Protective Equipment Contamination by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) From a Symptomatic Patient. JAMA. https://jamanetwork.com/journals/jama/fullarticle/2762692

- COVID-19 CT imaging is compared to imaging of other respiratory diseases, with authors providing some case reviews and recommendations for differential diagnostic processes.

  Dai et al. (Mar 4, 2020). CT Imaging and Differential Diagnosis of COVID-19. Canadian Association of Radiologists Journal. https://doi.org/10.1177%2F0846537120913033

- This brief review of the current literature examines the prevalence of pre-existing liver conditions among COVID-19 patients and the incidence of abnormal liver function identified during the course of illness. Potential causes of abnormal liver function are discussed.

  Zhang et al. (Mar 4, 2020). Liver injury in COVID-19: management and challenges. Lancet Gatroenterol Hepatol. https://doi.org/10.1016/S2468-1253(20)30057-1

- Two articles describe special considerations for pregnant women diagnosed with COVID-19. They offer recommendations for maternal and infant safety before, during, and after delivery.

  Favre et al. (Mar 3, 2020). Guidelines for pregnant women with suspected SARS-CoV-2 infection. Lancet Infect Dis. https://doi.org/10.1016/S1473-3099(20)30157-2

  Chua et al. (Mar 4, 2020). From the frontlines of COVID-19 - How prepared are we as obstetricians: a commentary. BJOG. https://doi.org/10.1111/1471-0528.16192

- Authors provide specific recommendations for limiting transmission of COVID-19 in dental clinics and hospitals.

  Peng et al. (Mar 3, 2020). Transmission routes of 2019-nCoV and controls in dental practice. International Journal of Oral Science. https://doi.org/10.1038/s41368-020-0075-9

- Authors discuss the need for special considerations when working with cancer patients during the current COVID-19 outbreak.

  Wang and Zhang (Mar 3, 2020). Risk of COVID-19 for patients with cancer. Lancet Oncol. https://doi.org/10.1016/S1470-2045(20)30149-2

Virology

- Recent news reports and some scientific literature has begun to explore patterns of genetic recombination of SARS-CoV-2. Two new reports provide evidence of such recombination, which is relevant to public health and health care professionals in that such viral changes could influence the accuracy of testing assays, change transmission dynamics, and influence treatment efficacy.

  Yi (Mar 4, 2020). 2019 novel coronavirus is undergoing active recombination. Clinical Infectious Diseases. https://doi.org/10.1093/cid/ciaa219

  Shen et al. (Mar 4, 2020). Genomic diversity of SARS-CoV-2 in Coronavirus Disease 2019 patients. Clinical Infectious Diseases https://doi.org/10.1093/cid/ciaa203

Other Resources and Commentaries

- COVID-19 and the anti-lessons of history – The Lancet
- The BMJ publishes several commentaries and editorials on COVID-19 and response efforts around the world. Check back daily for updates.