Acta Scientific Clinical Case Reports

Volume 1 Issue 4 May 2020

Opinion

GI Endoscopy in the Era of COVID-19; Is it Remodelling Our Routine Practices?

Adeel Urrehman[1]*, Amna Subhan[1] and Christopher Khor[2]

[1]*Aga Khan University Hospital AKUH, Pakistan*

[2]*Singapore General Hospital, Singapore*

***Corresponding Author:** Adeel Urrehman, Aga Khan University Hospital AKUH, Pakistan.

Received: April 22, 2020

Published: April 30, 2020

As of 23th April 2020, there are nearly 2.7 million confirmed cases of COVID-19 and more than 187,000 fatalities across the world due to the pandemic. Cohort studies revealed that approximately 30% of cases have no symptoms, while majority of 55% have mild-moderate symptoms that do not require hospitalization, and the remaining 10% have severe symptoms needing hospital admission, while 5% need ICU care for ventilatory support [1-3]. Mortality is variable in different regions ranging from 1.6 - 12% with overall figures of approximately 6.7%. It is a highly contagious infection with the virus testing positive in various bodily fluids as follows: bronchoalveolar lavage fluid 93%, nasal swabs 63% and feces 29% [4]. Exponential increases in infection numbers indicate how rapidly the virus has spread across the globe, infecting every country in all continents.

Aerosol-generating medical procedures are a potential vector of infection if the virus is present in the secretions of the examined site. In this context, upper and lower gastrointestinal endoscopy procedures (including Esophago-Gastro-Duodenoscopy, Endoscopic Retrograde Cholangio-Pancreatography, Colonoscopy and Endoscopic Ultrasound) have the potential to transmit COVID-19. A worldwide consensus is developing to postpone all elective endoscopy, while procedures for managing gastrointestinal urgencies and emergencies (e.g. GI Bleeding, cholangitis, foreign body impaction) should proceed with healthcare providers using appropriate personal protective equipment (PPE). For semi-urgent cases which may include evaluation of malignancies; recommendations have been made to allow for flexibility of scheduling according to individual case circumstances and local logistics [5]. Fear of acquiring COVID-19 infection is keeping individuals with minor complaints away from healthcare facilities; it is likely that a significant proportion of those coming directly to emergency services genuinely need urgent medical attention, which may include endoscopy. Whether all GI endoscopic procedures should be done under monitored anaesthesia care or conscious sedation remains to be clarified further. Deep sedation administered by anaesthetists may be expected to lower the risk of aerosol generation due to less patient reaction to the procedure but this needs to be considered against the potential harm of exposing a greater number of personnel involved in the procedure, patient risk of aspiration, and increased use of drugs like propofol and fentanyl for which shortages are already faced with increasing numbers of COVID-19 patients requiring ICU care and mechanical ventilation. With recently-available rapid testing kits for COVID-19 now FDA approved, it may become practical to test ahead of schedule every patient planned for endoscopy when restarting elective lists. This may be a cost-effective way to resume routine practices while also assuring the safety of the endoscopy team. In-addition co-morbidities of patients need to be considered as well to evaluate risk to GI related disease vs COVID-19 related risk for morbidity and Mortality [6].

From the beginning of the pandemic, the provision of appropriate personal protective equipment (PPE) has been a key pillar in the fight against this virus, for the protection of health care professionals. Another pillar has been the instituting of meticulous hand hygiene protocols. It has been shown that the virus is excreted in stools, and that it uses the angiotensin converting enzyme (ACE) II receptor to gain cellular entry; the receptor is also present in the gut [5]. Various guidelines for PPE use in GI endoscopy have been published; the recommendations are fairly similar across the board, and some have modifications incorporated from local innovations. The correct sequence of putting on the PPE (donning) [10] and when taking it off (doffing) is crucial. This is especially important upon completion of the procedure, to prevent cross contamination and to avoid contact with the contaminated external surface while doffing [10]. A protocol for step-wise exit from the procedure room for members of the endoscopy team is useful [7-9]. There is thus far no data that describes COVID-19 infections acquired by endoscopy staff.

Covid-19 is easily inactivated by the use of routine disinfectants used across different endoscopy cleaning units [7,8]. Special care needs to be taken after endoscopy to make sure that the transportation tray is fully covered during transfer to the reprocessing room. GI endoscopy should be performed in a negative pres-

sure room, but this facility may not be available. Adequate breaks should be scheduled in between procedures for disinfection of the rooms with different agents, for surface cleaning, and to allow proper aeration for at least 15 - 30 minutes.

During this period there is massive reduction of teaching activity and therefore of exposure for GI trainees to endoscopy procedures. To try to compensate for this loss, a number of online teaching initiatives have been started. Webinars have been arranged by various scientific societies at local, regional and international levels. One prominent forum recently launched by the ASGE is a Fellows' Corner providing online teaching material with videos and assessment modules for GI Training Fellows, that allows free access. This high-quality training opportunity has transformed the online teaching landscape and it is hoped that the current access policy will be made permanent.

It is becoming clear that to fight the pandemic successfully, it is necessary to stay nationally united, and to work together at a global level in co-ordination with regional and international societies. In the absence of a specific anti-viral therapy or a vaccine: the best strategy to fight this pandemic is to practice social distancing, test widely to identify infected individuals and isolate them, do meticulous contact tracing, and to deliver good supportive medical care to those who are symptomatic. We hope this will end soon.

Bibliography

1. Yang Liu., *et al*. "Viral dynamics in mild and severe cases of Covid-19". *The Lancet* (2020).

2. Lauer SA., *et al*. "The Incubation Period of Coronavirus Disease 2019 [COVID-19] From Publicly Reported Confirmed Cases. Estimation and Application". *Annals of Internal Medicine* (2020).

3. Niel M Ferguson., *et al*. "Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand". Imperial College COVID-19 response Team (2020).

4. Wenling W., *et al*. "Detection of SARS-CoV-2 in Different Types of Clinical Specimens". *Journal of the American Medical Association* (2020): e203786.

5. British Society of gastroenterology. BSG/JAG COVID-19 guidance and advice (2020).

6. Lui RN., *et al*. "Overview of guidance for endoscopy during the coronavirus disease 2019 (COVID-19) pandemic". *Journal of Gastroenterology and Hepatology* (2020).

7. Chiu PWY., *et al*. "Practice of Endoscopy during COVID-19 pandemic: position statements of the Asian Pacific Society for Digestive Endoscopy (AOSDE-COVID Statements)". *Gut* (2020).

8. ASGE. "Joint GI society message: COVID-19 clinical insights for our community of gastroenterologist and gastroenterology care providers" (2020).

9. Guidance on Personal Protective Equipment (PPE) To Be Used By Healthcare Workers during Management of Patients with Confirmed Ebola or Persons under Investigation (PUIs) for Ebola who are Clinically Unstable or Have Bleeding, Vomiting, or Diarrhea in U.S. Hospitals, Including Procedures for Donning and Doffing PPE.

10. Essentials of donning, doffing and changes in endoscopy practice to reduce the risk of spreading COVID-19 during endoscopy.