Applied Cell Biology

ISSN : 2320-1991 Online
ISSN : 2320-1983 Print
Volume 8 Issue 2

Commentary
Appl Cell Biol, 8(2), 2020 [31-33]

Key strategies to be implemented when reopening digestive endoscopy units after the peak of the COVID-19 pandemic with decision algorithm proposal

Younes Cherradi

Department of Medicine, Mohammed Vth Hospital, Sefrou, Morocco

***Corresponding author:** Dr Cherradi Younes, Department of Medicine, Mohammed Vth Hospital, Sefrou, Morocco; E-mail: cherradiyounes@hotmail.com

During the coronavirus disease 2019 (COVID-19) pandemic, activity in digestive endoscopy units has been affected and all non-urgent procedures postponed. Because of the restrictive measures in digestive endoscopy units during the outbreak period, a significant pressure on gastroenterology departments is expected as delays and waiting lists are long. Even many countries have initiated deconfinement, no one can predict the evolution of the disease in the following months, or the exact time to return to 'normal' activity. In the same time, there is a great need from both patients and doctors for reassessing endoscopic activity. This Commentary presents the precautions that should be taken when reopening digestive endoscopy units to provide optimal patients care while avoiding new CoVID-19 waves for the first 3 to 6 months after the peak of the COVID-19 pandemic.

Endoscopy when it's necessary and non-invasive tools first!

Priority for endoscopic procedures should be definitely given to emergency cases (upper gastrointestinal bleeding, angiocholitis...) and to patients with suspicion or known history of digestive cancer. Regarding colorectal cancer, fecal immunochemical testing associated to CT colonography has been suggested as a triage tests to guide colonoscopy timing or investigations priority [1]. In stable patients with chronic diseases like inflammatory bowel disease (IBD) and cirrhosis, telehealth seems still a good option for regular follow-up. Noninvasive tools should be preferred if available. In the absence of precancerous condition and clinical or imaging evidence of malignancy, privilege serology and stool antigen tests as first approach in the diagnosis of Helicobacter pylori infection. The use of respiratory urease test and droplet digital polymerase chain reaction should be discussed regarding a possible risk of viral transmission. Fecal tests calprotectin coupled to C-reactive protein (CRP) are helpful in patients with inflammatory bowel disease (IBD) for follow-up and diagnosis of flare [2].

Admission interview and waiting room rules:

Admission of patients is a crucial moment. Social distancing should be respected in the waiting rooms with mandatory masking. The interview at arrival is supposed to permit initial screening of patients, stratifying infection risk into higher and lower and assessing priority need for endoscopic procedure. The interviewer should wear protective mask and glasses. If interview conclude to lower infection risk, this should not induce a false sense of security and precaution measures are still recommended in endoscopy room.

Screening protocol

If possible and according to local availability, adopting a screening strategy prior to each endoscopic procedure is justified. All patients with an indication of endoscopy should be screened for SARS-COV2 in order to eliminate an active CoVID-19 case. Nasopharyngeal reverse transciptase polymerase chain reaction (RT-PCR) testing for SARSCoV-2 may exclude positive patients but a negative result should be considered carefully [3]. Patients with positive tests should be postponed until recovery (fig. 1). If results is negative, and due to angiotensin-converting enzyme 2 (ACE2) tropism and oral fecal transmission [4], nasopharyngeal rt-PCR sampling is not sufficient and should be also performed in stool samples (figure 1). Viral ribonucleic acide (RNA) may be present in feces of asymptomatic patients and in patients with positive CoVID-19 even when respiratory recovery is assessed [2, 4]. Another advantage of screening for active coronavirus disease in feces by rt-PCR is the possibility of diagnosing a digestive presentation of CoVID-19 [2, 4]. With a normal CRP and fecal calprotectin levels and a positive rt- PCR from stool samples, we can eliminate an IBD flare even when diarrhea is the presenting symptom.

Commentary

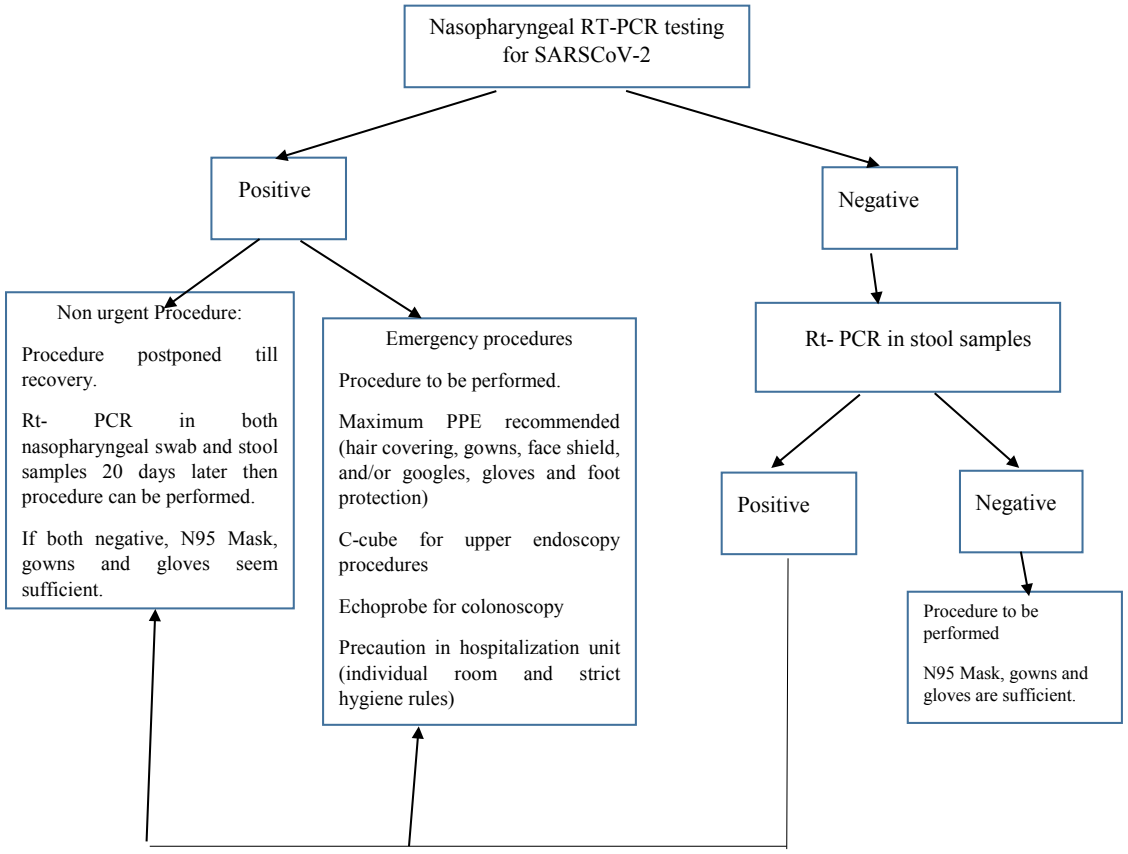

Figure 1: Screening protocol for patients undergoing endoscopic procedure with implication on planning

Personal protective equipment (PPE) and other protective devices:

Wearing of PPE in endoscopy room seems still necessary. According to availability, and regarding the asymptomatic presentation of CoVID 19, scrubs, hair covering, gowns, face shield, and/or googles, gloves and foot protection may be all required. The screening protocol could determinate the protection level (figure 1). Noriko Nishiyama et al. recommended a use of an echoprobe when performing colonoscopies [5]. Other authors suggested a newly designed endoscopic devices, the COVID-19 "C-Cube," [6] and the Endoprotector [7] allowing safe working station for both gastroenterologist and anesthesiologist. The later measures provide more comfortable and protected environment, allow facing issues related to PPE lack of storage and bring solutions to recurring need for continuous supplies; they are costless and easily reproducible but are not yet scientifically validated. Rigorous cleaning of endoscopy room after each procedure is a necessity. Wearing FFP2 mask (and a visor if available) is recommended for anesthesia staff in the operating room [8].

Management of Biopsy specimens

It was demonstrated that SARS-CoV-2 proteins and RNA were present in infected formalin fixed paraffin embedded (FFPE) tissue and biopsy specimen from intestine [9, 10] but there is no evidence of virus viability. Many authors continue recommending the immediate use of formalin for virus inactivation [11, 12]. The World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) recommended precautions and biosafety practices when processing specimens in CoVID-19 pandemic [13, 14]. Pathologists and laboratory technicians should be also protected when handling potentially infectious fresh biopsy specimens from intestine in era of CoVID-19. When diagnosis of CoVID-19 is confirmed or highly suspected in patients who underwent endoscopy with biopsies, gastroenterologists are required to notify the laboratory in the investigation request form with a dedicated CoVID-19 circuit.

Post procedure period

Hospitalization time should be reduced, social distancing should be respected and isolation is indicated for patients with positive screening tests. Telehealth with teleconsultation is recommended for post-procedure follow-up.

Restarting endoscopy education

Fellows should be incorporate back into Endoscopy unit with precaution. Number of participants should be limited with daily repartition and PPE should be provided. Live conferences, recording of procedures and hands on models and simulators could not replace active participation in diagnostic and interventional endoscopic procedures, but they are accepted methods allowing preservation of trainees' skills and reducing transmission risks [15].

Issues facing reassessing endoscopic activity in the day after CoVID-19 are multiple with implications on both patients and healthcare professionals. Regarding the waiting lists, the need to return to "normal" activity is real, but on the basis of current knowledge, precautions should be taken during at least the following 3 months since the vaccine is still not available.

Conflict of interest

There is no conflict of interest to declare.

REFERENCES

1. RP Arasaradnam et al. Faecal immunochemical testing in the COVID-19 era: balancing risk and costs. Lancet Gastroenterology and hepatology 2020. doi:https://doi.org/10.1016/S2468-1253(20)30185-0
2. Y. Cherradi. Fecal Calprotectin and RT-PCR from both nasopharyngeal swab and stool samples prior to treatment decision in IBD patients during CoVID-19 outbreak. Digestive and liver disease 2020; doi: https://doi.org/10.1016/j.dld.2020.05.039 1590-8658
3. BS. Bleier, KC. Welch Pre-procedural COVID-19 Screening: Do Rhinologic Patients Carry a Unique Risk Burden for False Negative Results? Int Forum Allergy Rhinol.2020 doi:10.1002/alr.22645
4. Y. Cherradi. CoVID-19, a digestive disease. Journal of Medical and Surgical Research -JMSR- 2020; VI (3): 714-721. doi: https://doi.org/10.46327/msrjg.1.000000000000159
5. N. Nishiyama et al. Novel technique using an echo probe cover prevents oral–fecal transmission of SARS-CoV-2 during urgent colonoscopies. Endoscopy 2020. DOI https://doi.org/10.1055/a-1187-1018
6. M. Traina et al. The C-Cube: an endoscopic solution in the time of COVID-19. Endoscopy 2020. DOI https://doi.org/10.1055/a-1190-3462
7. S. Campos et al. Endoprotector: Protective box for safe endoscopy use during COVID-19 outbreak. Endoscopy International Open 2020; 08: E817–E821
8. Anas M. Majbar et al. Resuming Elective Oncologic Surgery After CoVID-19 Outbreak: What Precautions Should be Taken? Journal of Medical and Surgical Research -JMSR- 2020; VI (3): 724-733. doi: https://doi.org/10.46327/msrjg.1.000000000000161
9. Guerini-Rocco E et al. detection in formalin-fixed paraffin embedded tissue specimens from surgical resection of tongue squamous cell carcinoma. J Clin Pathol. 2020 https://doi.org/10.1136/jclinpath-2020-206635SARS-CoV-2
10. Sekulic et al. Molecular Detection of SARS-CoV-2 Infection in FFPE Samples and Histopathologic Findings in Fatal SARS-CoV-2 Cases. Am J Clin Pathol 2020 May 26; doi: 10.1093/ajcp/aqaa091
11. PC.Iwen,KL.Stiles,andMA.Pentella.SafetyConsiderations in the Laboratory Testing of Specimens Suspected or Known to Contain the Severe Acute Respiratory Syndrome Coronavirus2 (SARS-CoV-2). Am. J. Clin.Pathol 2020; DOI: 10.1093/AJCP/AQAA047
12. Thesaurus national de cancérologie digestive version du 18/03/2020. www.tncd.org
13. World Health Organization. Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected: interim guidance, 25 January 2020. World Health Organization; 2020, pp 1-5. https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125
14. Centers for Disease Control and Prevention (CDC). Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with Coronavirus Disease 2019 (COVID-19): https://www.cdc.gov/coronavirus/2019-nCoV/lab/lab-biosafety-guidelines.html
15. ED. Siddiqui, HR. Aslanian. The New Virtual Reality: Advanced Endoscopy Education in the COVID-19. Digestive Diseases and Sciences. 2020. https://doi.org/10.1007/s10620-020-06386-0