DOI: 10.34172/mejdd.2020.186

Endoscopy during COVID-19 Pandemic

Anahita Sadeghi [1], Kamran Bagheri Lankarani [2,*]

1. Digestive Disease Research Institute, Tehran University of Medical Sciences, Tehran, Iran
2. Health Policy Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

Please cite this paper as:
Sadeghi A, Bagheri Lankarani K. Commentary: Endoscopy during COVID-19 Pandemic. *Middle East J Dig Dis* 2020;**12**:217-219. doi: 10.34172/mejdd.2020.186.

* **Corresponding Author:**
Kamran B Lankarani, MD
Professor of Medicine (Gastroenterology and Hepatology), Health Policy Research Center, Shiraz University of Medical Sciences, Zand Blvd. Shiraz, Iran, Postal Code: 7134845794
Telefax: + 98 71 32309615
Email: lankarani@behdasht.gov.ir

Received: 10 May. 2020
Accepted: 10 Jun. 2020

INTRODUCTION

The ongoing pandemic of coronavirus disease 2019 (COVID-19) poses a major global health threat. The infected patients may present with a broad spectrum of clinical signs and symptoms, from being asymptomatic to developing flu-like symptoms or pneumonia, acute respiratory distress syndrome, multi-organ failure, and death. [1, 2] Gastrointestinal symptoms are also common in patients with COVID-19, and some cases may first present with nausea, vomiting, and diarrhea even without other symptoms. [3, 4] Although viral transmission is primarily through small respiratory droplets and direct contact, there is also the possibility of both bioaerosol transmission and fecal contamination.[4] Furthermore, there is evidence of viral shedding in asymptomatic subjects or during the long incubation period of the virus. [5] That is why all healthcare providers, staff, and even patients of the endoscopy department are at great risk of COVID-19 infection, and therefore, special precautions for disease prevention should be taken to ensure their safety.

Gastroenterologists are at higher risk for COVID-19 by respiratory and fecal-oral routes. Among 480 gastroenterologists, 10.6% had confirmed COVID-19 in Iran. [6]

With this background, the "Guideline on Endoscopy during COVID-19 Pandemic" in Iran was compiled and edited based on the consensus of a group of gastroenterologists on the latest knowledge and international guidelines, as well as the survey of colleagues' opinions and experiences in this context. Here, we outline a summary of these recommendations in five distinct categories. The full text was published before in the Persian language. [7]

A. Risk stratifying of patients and procedures and general recommendations

1. At least a day before admission, all patients have to be risk-stratified in terms of COVID-19 status with a thorough personal and family history in favor of having fever, cough, dyspnea, diarrhea, abdominal pain, loss of the sense of smell and taste, or having the history of close contact with a suspected or confirmed case of COVID-19 infection. Moreover, reassessments are required at the time of referral. Accordingly, patients are classified in the following groups:

- Low risk: no symptom and no contact history.

- Moderate risk: no symptom but a history of close contact.

- High risk: any of the symptoms, or a positive PCR test, or a CT in favor of COVID-19

2. Diagnostic-therapeutic procedures are also categorized in the same manner:

- Moderate risk: colonoscopy, sigmoidoscopy, and rectal endosonography

- High-risk: upper endoscopy, endoscopic retrograde cholangiopancreatography (ERCP), and upper endosonography

3. Endoscopy departments should provide adequate personal protective equipment, considering an appropriate place to use and dispose of them in addition to providing proper education to all physicians and staff in this regard.

B. Indications of procedures

1. Urgent diagnostic and therapeutic procedures that need immediate action include esophageal obstruction, foreign body ingestion, acute cholangitis/biliary obstruction requiring drainage, symptomatic gastrointestinal (GI) bleeding, suspicion of any GI cancer, inflammatory bowel disease unresponsive to treatment, and purulent pancreatic cyst with failure of antibiotic therapy, or at the discretion of the physician.

2. All elective, non-immediate, non-urgent endoscopic procedures, as well as esophageal manometry, outpatient pH test, endoscopic video capsule, and anorectal manometry, are temporarily called off. Instead, telephone follow-ups should be conducted, and any further decision should be made according to the patient's condition.

C. Personal protection equipment

1. The following personal protective equipment is recommended in high-risk procedures: high-filter respirators (N95, or FFP2, or FFP3), two pairs of gloves, hairnet, protective eyewear (goggles or face shield), waterproof gowns and pants, and shoe covers (footwears).

In low-risk procedures, the surgical mask could be substituted in case of having limited resources.

2. In high-risk individuals or patients with a definite diagnosis of COVID-19, complete protective equipment, including universal waterproof clothing, is recommended in all kinds of procedures.

3. Service staff who are responsible for cleaning the endoscopy room should enter the operating room with at least 15 minutes interval after the procedure ends. A surgical mask and in confirmed cases of COVID-19, a high-filter respirator N95 or FFP2 or FFP3 along with gowns, gloves, and face shield are recommended for these employees.

D. Environment and devices

1. The endoscopy room should be well ventilated and preferably to the negative pressure status.

2. Standard endoscopic disinfection and reprocessing protocols to eliminate SARS CoV2 virus are recommended.

3. All surfaces of the endoscopic room, including the floor, bed, tables, chairs, and external surfaces of each device should be disinfected after each procedure using 70 percent alcohol or 2% bleaching agents.

E. Patients

1. All patients entering the endoscopy department should wear a disposable surgical mask and gloves. Patients are advised to keep their movement and activity to a minimum level while waiting for the procedure. No visitor is allowed into the endoscopy suite.

Given the hazard caused by endoscopic procedures during the COVID-19 pandemic, the endoscopy departments are responsible for mobilizing essential equipment to ensure the health of both healthcare providers and patients. This guideline will be updated as our knowledge increases in this regard.

ACKNOWLEDGMENT

We would like to thank the research deputy of the Ministry of Health, Kazem Naddaf (TUMS), Laleh Ghadirian (TUMS), and all gastroenterologists who helped to prepare this national guideline [in alphabetical order: Peyman Adibi (IUMS), Shahram Agah (IUMS), Ali Ali Asgari (TUMS), Mahvash Alizadeh Naini (SUMS), Seyed Farshad Allameh (TUMS), Nasser Ebrahim Daryani (TUMS), Javad Ehsani (SBMU), Fardad Ejtehadi (SUMS), Ebrahim Ghaderi (MUK), Seyed Jalal Hashemi (AJUMS), Ahmad Hormati (MUQ), Abolfazl Iranikhah (MUQ), Mojtaba Khademi (HUMS), Manouchehr Khoshbaten (TBZMED), Mohammadali Mahdiabadi (BUMS), Reza Malekzadeh (TUMS), Fariborz Mansour-

Ghanaei (GUMS), Mohsen Masoudi (IUMS), Sadegh Massarrat (TUMS), Seyed Moayed Alavian (BMSU), Seyed Hamid Mousavi (HUMS), Mohammadali Nejati (SUMS), Mahdi Saberi Firoozi (TUMS), Seyed Ali Reza Taghavi (SUMS), Farhad Zamani (IUMS)].

ETHICAL APPROVAL

There is nothing to be declared.

CONFLICT OF INTEREST

The authors declare no conflict of interest related to this work.

REFERENCES

1. Guan WJ, Ni ZY, Hu Y, , Ou CQ , He JX, et al. China Medical Treatment Expert Group for Covid-19. Clinical characteristics of coronavirus disease 2019 in China. *N Engl J Med* 2020;**382**:1708-20. doi: 10.1056/NEJMoa2002032.2.
2. Huang C, Wang Y, Li X, Zhao J, Hu Y, Zhang L, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 2020;**395**:497–506. doi: 10.1016/S0140-6736(20)30183-5.
3. Tian Y, Rong L, Nian W, He Y. Gastrointestinal features in COVID-19 and the possibility of faecal transmission. *Aliment Pharmacol Ther* 2020;**51**:843-851. doi: 10.1111/apt.15731.
4. Cheung KS, Hung IF, Chan PP, Lung KC, Tso E, Liu R, et al. Gastrointestinal Manifestations of SARS-CoV-2 Infection and Virus Load in Fecal Samples from the Hong Kong Cohort and Systematic Review and Meta-analysis. *Gastroenterology* 2020;S0016-508530448-0. doi: 10.1053/j.gastro.2020.03.065.
5. Tong Z, Tang A, Li K, Li P, Wang H, Yi J, et al. Potential Presymptomatic Transmission of SARS-CoV-2, Zhejiang Province, China, 2020. *Emerg Infect Dis* 2020;**26**:1052-4. doi:10.3201/eid2605.200198.
6. Hormati A , Niya M, Ghadir M, Lankarani K, Ajdarkosh H, Tameshkel F, et al. Expression risk of COVID-19 in Endoscopy ward: A Potential Risk for Gastroenterologists. *Infect Control Hosp Epidemiol* 2020;1-2. doi: 10.1017/ice.2020.160.
7. Sadeghi A, Bagheri-Lankarani K. Iranian National guideline on Endoscopy during COVID-19 Pandemic. *Gvaresh* 2020;**25**:31-7.