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Correspondence

Performing endoscopy in a reorganised gastroenterology department during pandemic lockdown [☆]



We read with interest the recent article by Elli et al. [1], about the experience and recommendations for performing endoscopy during the Coronavirus Disease 2019 (COVID-19) pandemic.

We would like to share our endoscopy unit's experience during the pandemic, particularly in the lockdown period, when our activity was more restricted.

In Portugal, the first confirmed case of COVID-19 was on March 2, 2020 [2]. Since that time, several measures have been gradually implemented to control the spread of the virus. A state of emergency (lockdown) was declared between March 18 and May 2, 2020.

Since the beginning of the lockdown our endoscopy unit was forced to adapt the daily practice. First, most of the scheduled activity was interrupted, except for urgent and emergent cases. Access to the department was restricted to a limited number of persons in the waiting room at the same time, allowing to maintain social distance.

Before the procedure, each patient was submitted to a questionnaire to assess the risk of SARS-CoV-2 infection. Regardless of the risk of infection all procedures were performed with full personal protective equipment (PPE): FFP2/N95 respirator, face shield, hairnet, water-proof gown, double pair of gloves and clogs.

To evaluate the real impact of the pandemic on our daily practice, we decided to analyze data in the endoscopic registry of all endoscopic procedures performed during the Portuguese lockdown. During this period, a total of 277 endoscopic procedures were performed: 136 esophagogastroduodenoscopies – EGD (49.1%), 45 total colonoscopies (16.2%), 35 proctosigmoidoscopies (12.6%), 24 endoscopic retrograde cholangiopancreatographies – ERCP (8.7%), 19 endoscopic ultra-sonographies – EUS (6.9%), 11 capsule endoscopies – CE (4.0%) and 7 double-balloon enteroscopies – DBE (2.5%).

Before the pandemic, during a normal six weeks period, around 2000 procedures were usually performed in our endoscopic unit. In comparison, during the lockdown only approximately 14% of the normal procedures were performed, which reflects the enormous impact of the pandemic on our activity.

During this period, we focused on the prioritization of procedures, and thus a physicians' team was responsible for the triage of all procedures performed (inpatients and outpatients). We retrospectively analysed all indications, positive findings, therapeutic

interventions performed, and adverse events occurring during the lockdown (table 1).

The principal indication for EGD was upper gastrointestinal bleeding (30.9%, $n=42$), followed by dysphagia (19.9%, $n=27$), symptomatic anemia (13.3%, $n=18$), enteric feeding tube placement (8.9%, $n=12$) and ingestion of foreign body or food impaction (8.1%, $n=11$). Other indications were occult primary tumor (5.1%, $n=7$), radiologic evidence of a mass (2.9%, $n=4$) or elective variceal eradication (2.9%, $n=4$).

The sole indication for proctosigmoidoscopy was acute gastrointestinal bleeding, presenting as rectal bleeding (73.5%) or as haematochezia (26.5%). The principal indication for colonoscopy was symptomatic anemia (26.7%, $n=12$). Other indications for colonoscopy were radiologic evidence of a mass (20.0%, $n=9$), acute gastrointestinal bleeding (17.8%, $n=8$) or elective removal of large colorectal polyps (11.1%, $n=5$).

Regarding enteroscopy, a limited number of procedures were performed during the analysed period. The main indication for CE was suspected middle gastrointestinal bleeding (44.6%, $n=6$), with a previous normal upper and lower endoscopy. Other indications were suspected small bowel neoplasm (27.2%, $n=3$) and Crohn's disease suspicion (18.2%, $n=2$). Most frequent indications for DBE were small bowel angiectasias seen in capsule endoscopy (28.5%, $n=2$) and suspected neoplasm (28.5%, $n=2$). Another indication for enteroscopy was acute gastrointestinal bleeding (14.3%, $n=1$) despite no findings in EGD, colonoscopy and CE.

Considering that we are a referral center in northern Portugal, we maintained a reasonable number of biliopancreatic endoscopies, compared to other "common techniques" such as colonoscopy or enteroscopy. The main indication for ERCP was obstructive jaundice (50%, $n=12$) followed by acute cholangitis (41.6%, $n=10$) and suspected malignancy (8.4%, $n=2$). The principal indication for EUS was suspected neoplasm (78.9%, $n=15$) or peripancreatic collection (21.1%, $n=4$).

Seven of the above procedures were performed in COVID-19 patients: four EGDs, one colonoscopy, one CE and one EUS, corresponding to 2.5% of the endoscopic procedures in our unit during the lockdown. All procedures were performed in negative pressure room with full PPE.

Relevant endoscopic findings were seen in between 44.5% and 91.7% of cases, depending on the type of procedure. This high rate of relevant findings may reflect a good triage strategy, but it may also mean that many pathologies remain undiagnosed in patients who do not meet the criteria of urgent or emergent situation.

The rate of procedure related adverse events was low (1.8%, $n=5$), most cases were related to post-ERCP complications (cholangitis or pancreatitis).

As described above, most endoscopic activity was restricted to urgent and emergent cases such as gastrointestinal bleeding, enteric feeding tube placement (mostly in ICU), acute cholangitis, ob-

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Table 1
Endoscopic activity performed at Centro Hospitalar São João during Portuguese lockdown.

	EGD	Colonoscopy	Procto-sigmoidoscopy	EC	DBE	ERCP	EUS
Indications	Acute gastrointestinal bleeding Dysphagia Anemia Enteric feeding tube Foreign body or impaction Occult primary tumor Radiologic evidence of mass Elective variceal eradication Others	Anemia Radiologic evidence of mass Acute gastrointestinal bleeding Large colorectal polyps for endoscopic resection Occult primary tumor Chronic diarrhea Fever of unknown origin Others	Acute gastrointestinal bleeding	Suspected middle gastrointestinal bleeding Suspected neoplasm Suspected Crohn's disease	Small bowel angiectasia Suspected neoplasm Acute gastrointestinal bleeding Others	Obstructive jaundice Acute cholangitis Suspected neoplasm	Suspected neoplasm Peripancreatic collection
Total procedures (n)	136	45	35	11	7	24	19
Positive findings (n)	80	20	32	7	4	22	10
Therapeutic interventions (n)	48	7	0	N/A	1	24	4
Adverse events (n)	0	0	0	0	1	4	0

structive jaundice, food impaction and foreign body retrieval. Suspected neoplasms and symptomatic severe anemia were also considered for prioritizing procedures. All other cases were decided on a case-by-case analysis aiming to provide the best possible medical care, and to preventing the department reorganization from causing patients' mismanagement.

During April, national and international societies published guidance documents about the prioritization of procedures [3–6]. All of them had some similarity in recommendations for urgent and emergent cases that corroborate our triage criteria. Some cases outside these criteria were discussed case-by-case. For example, elective procedures of variceal eradication were performed in patients with recent bleeding to avoid rebleeding episodes, and endoscopic lesions resections (EMR or ESD) were performed in high-risk patients. All cases of dysphagia were carefully evaluated before each procedure and were associated with alarm features. Some cases of acute gastrointestinal bleeding occurred in patients with history of inflammatory bowel disease and led to hospitalization in the majority of patients due to severe disease activity. Those cases were also managed in agreement with international recommendations [7]. Despite all these recommendations we must be aware that there is no robust evidence to support them. Thus, case-by-case assessment and multidisciplinary discussion remain essential.

Beyond this, other measures such as social distancing, hand hygiene and obligatory mask use were applied. Patients workflows were also adjusted with the creation of specific patient pathways in case of COVID-19 inpatients and outpatients. All procedures were performed with the minimum necessary number of health care workers involved and with adequate PPE to avoid unnecessary health care providers exposure.

After the end of the lockdown period, a resumption of normal activity was initiated. Constant reassessment of the COVID-19 pandemic status, leading to a careful lifting of restrictions in a step-by-step manner, should be implemented until the country reaches normality. Until then, there is an urgent need to progressively resume activity, with the appropriate individual protection measures, in order to respond to the population needs [8].

As of June 7th, 2020, no cases of SARS-CoV-2 infection were reported in our department. The authors consider that the “later start” of the pandemic in our country, in comparison with other European countries, may have played a decisive role in the successful reorganization of our unit, taking as examples reports and experiences from several countries [9,10].

Declaration of Competing Interest

The authors of this manuscript have no conflict of interest to declare.

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