Mandatory preprocedure testing for SARS-CoV-2 for all-comers may not be required for resuming endoscopic services amidst the ongoing COVID-19 pandemic

We read with interest the study by Hayee *et al*[1] which reported no COVID-19 infection in healthcare workers (HCWs) or patient after 6208 outpatient GI endoscopic procedures across 18 centres in UK with the use of personal protective equipment (PPE) and infection control policies. Only 3 (0.11%) of 2611 asymptomatic patients had tested positive for SARS-CoV-2 prior to endoscopy. The study is timely and the results are gratifying given the huge perceived risk of cross-infection among HCWs and patients during the ongoing COVID-19 pandemic. The study favours resumption of outpatient diagnostics during COVID-19 recovery phase without mandatory testing. The risk may, however, vary depending on factors such as infection rate in the population and type of the procedure. We are sharing our experience of transmission of COVID-19 following endoscopy across five academic centres in India, which should strengthen their argument.

All patients undergoing endoscopic procedures from 1 April 2020 to 31 May 2020 were included in an observational study. A detailed questionnaire was sent to the participating centres for the following information: (1) endoscopy details: type and indications of GI endoscopy and (2) infection control measures: use of PPE, mandatory policy of preprocedure testing for SARS-CoV-2 and disinfection practices. Outcome measure was new SARS-CoV-2 infection in HCWs or patient. The patients were followed up telephonically after 2 weeks of endoscopy for COVID-19 symptoms or confirmed COVID-19. HCWs were screened for symptoms and tested by reverse transcription PCR if indicated (online supplemental material).

RESULTS

All the centres reported 90% reduction in endoscopy procedures similar to 95% reduction during April–May in UK.[2] Four out of five centres followed a policy of selective testing if patients had high risk of SARS-CoV-2 infection (online supplemental material). Only one centre followed universal testing for all-comers. All centres used level 2 PPEs for the HCWs during endoscopy and followed recommended disinfection policies (online supplemental material).

A total of 1549 endoscopic procedures were performed: 1064 (68.7%) oesophagogastroduodenoscopy, 224 (14.5%) colonoscopy, 177 (11.4%) Endoscopic Retrograde Cholangiopancreatography, 61 (3.9%) endoscopic ultrasound and 23 (1.4%) other procedures. Of them, 1134 (73.2%) were performed for urgent, 97 (6.3%) for semiurgent and 318 (20.5%) for elective indications (table 1).[3 4]

Table 1 Endoscopic procedures and practices in different centres during the month of April and May 2020

	AIIMS	GBPH	PGIMER	CMC	SGPGI	Total
Number of procedures performed per day before COVID pandemic	100–150	100–150	100–150	100–150	50–100	450–700
Percentage procedures performed during the lockdown period	10%–15%	10%–15%	10%–15%	10%–15%	10%–15%	10%–15%
Total number of procedures performed (April, May)	290	340	274	545	100	1549
Urgent, N (percentage)	271 (93.5)	297 (87.4)	260 (94.9)	236 (43.3)	70 (70)	1134 (73.2)
Semiurgent, N (percentage)	4 (1.4)	39 (11.5)	5 (1.8)	40 (7.4)	9 (9)	97 (6.3)
Elective, N (percentage)	15 (5.2)	4 (1.2)	9 (3.3)	269(49)	21 (21)	318 (20.5)
Relocated healthcare workers from endoscopy unit	10%–25%	10%–25%	10%–25%	None	10%–25%	10%–25%
Precautions used in endoscopy unit to prevent spread of COVID infection						
Triage regarding urgency of procedure	Yes	Yes	Yes	Yes	Yes	5 Yes
Triage based on suspicion of COVID-19 infection	No	No	No	No	No	5 No
Reduced number of procedures	Yes	Yes	Yes	Yes	Yes	5 Yes
Reduced manpower in endoscopy unit	Yes	Yes	Yes	Yes	Yes	5 Yes
Use of PPE by endoscopy personnel	Yes	Yes	Yes	Yes	Yes	5 Yes
Provision of mask for patients	Yes	Yes	Yes	Yes	Yes	5 Yes
Mandatory COVID-19 testing for all patients prior to endoscopy	No	Yes	No	No	No	1 Yes
More aggressive disinfection policy	Yes	Yes	Yes	Yes	Yes	5 Yes
Avoid reuse of endoscopy accessories	No	No	No	Yes	No	1 Yes
PPE used while performing endoscopy						
Surgical mask	No	No	No	No	No	5 No
N95 mask	Yes	Yes	Yes	Yes	Yes	5 Yes
Gloves, double pair	Yes	Yes	Yes	No	Yes	4 Yes
Hairnet	Yes	Yes	Yes	Yes	Yes	5 Yes
Goggles or face shield	Yes	Yes	Yes	Yes	Yes	5 Yes
Long sleeved water-resistant gown	Yes	Yes	Yes	Yes	Yes	5 Yes
Training for donning and doffing PPE	Yes	Yes	Yes	Yes	Yes	5 Yes
Availability of negative pressure rooms in endoscopy suite	No	No	No	No	No	5 No
Any patient COVID+ve within 48–72 hours of procedure	4	2	0	0	0	6* (0.4%)
Any patient COVID+ve after 72 hours of procedure	0	0	0	0	0	0
Endoscopy personnel COVID+ve	1	2	0	0	0	3/74 (4%)

Institutes: AIIMS, New Delhi; CMC, Vellore; GBPH, New Delhi; PGIMER, Chandigarh; SGPGI, Lucknow, participants of GAIN study group.
*Six patients were likely to have been infected before the procedure because it takes 3–5 days for reverse transcription PCR to be positive after exposure.
AIIMS, All India Institute of Medical Sciences; CMC, Christian Medical College; GBPH, Govind Ballabh Pant Hospital; PGIMER, Post Graduation Institute of Medical Education and Research; PPE, personal protective equipment; SGPGI, Sanjay Gandhi Post Graduate Institute.

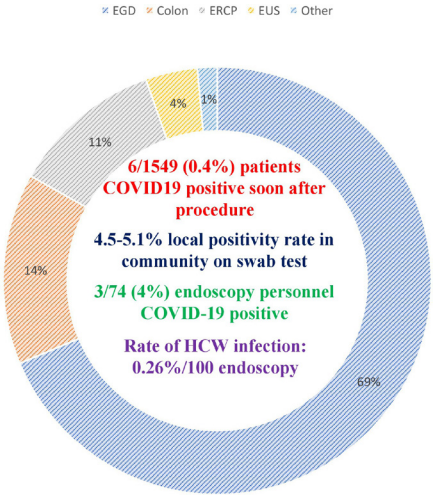

Figure 1 Distribution of type of endoscopy procedures done in April–May 2020 and risk of infection to patients and healthcare workers. EGD, esophagoduodenoscopy; ERCP, endoscopic retrograde cholangiopancreatography; EUS,endoscopic ultrasound; HCW, healthcare worker.

Six (0.4%, 95% CI; 0.14%- 0.86% with continuity correction) patients turned out to be COVID-19 positive within 48–72 hours of the endoscopic procedure. Of 74 HCWs, 3 (4%, 95% CI; 0.8% -t 11.4% with continuity correction) developed COVID-19 infection. The risk of a HCWs getting COVID-19 positive after using adequate PPE was 0.26% per 100 endoscopies (figure 1). None of the patients developed COVID-19 after 72 hours up to 2 weeks of endoscopy. This risk of transmission should be viewed in the context of the high transmission phase (4.5%–5.1% swab positivity rate in the community)[5 6] in India during that period

The zero risk of cross-infection in the UK study could be due to multiple reasons: (1) deceleration phase of infection, (2) 42% of patients were tested based on SCOTS criteria (telephone screen questions around Symptoms, infectious Contacts, Occupational risk, Travel risk and Shielding status) and only three turned out to be positive and (iii) adherence to infection control practices. A higher rate of infection in our study could be a reflection of community-acquired infection and not necessarily due to endoscopy. It was reassuring that none of the patients developed infection similar to the UK study. These results of both the studies highlight that the risk of transmission is minimal, despite endoscopy being an aerosol-generating procedure, although with strict adherence to infection control policies, adequate use of PPE and criteria-based preprocedure testing rather than mandatory testing as advised by some guidelines such as NICE, UK.[3 7] We concur with Hayee *et al* and recommend gradual resumption of outpatient diagnostics depending on local transmission phase of COVID-19 and report with safety guidance.

Soumya Jagannath,[1] Ashish Agarwal,[1] Deepak Gunjan ,[1] Samir Mohindra,[2] Vishal Sharma,[3] Sudipta Dhar Chowdhury,[4] Sanjeev Sachdeva,[5] Vivek A Saraswat,[6] Rakesh Kochhar,[3] Anoop Saraya ,[1] GAIN Group

[1]Department of Gastroenterology and Human Nutrition, All India Institute of Medical Sciences, New Delhi, Delhi, India
[2]Gastroenterology, SGPGIMS, Lucknow, Uttar Pradesh, India
[3]Gastroenterology, Postgraduate Institute of Medical Education and Research, Chandigarh, India
[4]Christian Medical College and Hospital Vellore, Vellore, Tamil Nadu, India
[5]Govind Ballabh Pant Hospital, New Delhi, Delhi, India
[6]Gastroenterology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, Uttar Pradesh, India

Correspondence to Professor Anoop Saraya, Department of Gastroenterology and Human Nutrition, All India Institute of Medical Sciences, New Delhi 110029, India; ansaraya@yahoo.com

Collaborators Members of GAIN Group (in alphabetical order)- All India Institute of Medical Sciences, New Delhi, India: Ashish Agarwal, Samagra Agarwal, Vineet Ahuja, Abhinav Anand, Rajat Bansal, Vikas Banyal, Kaushik Chatterjee, Anugrah Dhooria, Anshuman Elhence, Pramod Garg, Srikanth Gopi, Deepak Gunjan, Yegurla Jatin, Vikas Jindal, Bhaskar Kante, Kanav Kaushal, Saurabh Kedia, Soumya Jagannath Mahapatra, Govind Makharia, Srikant Mohta, Sandeep Kumar Mundhra, Piyush Pathak, Shubham Prasad, Mahendra Singh Rajput, Atul Rana, Anoop Saraya, Pabitra Sahu, Rahul Sethia, Shalimar, Sanchit Sharma, Amit Anurag Singh, Manas Vaishnav, Sudheer Kumar Vuyurru. Post Graduate Institute of Medical Educations and Research, Chandigarh, India: Usha Dutta, Rakesh Kochhar, Harshal S Mandavdhare, Gaurav Muktesh, Praveer Rai, Jayanta Samanta, Vishal Sharma, Jayendra Shukla. Christian Medical College, Vellore, India: Kaushik Chatterjee, Sudipta Dhar Chowdhury, Amit Kumar Dutta, John Titus George, Rajeeb Jaleel, Anjilivelil Joseph, Ebby George Simon. Sanjay Gandhi Post Graduate Institute, Lucknow, India: Ptaviva Chandra, Samir Mohindra, Vivek Saraswat, Jimil Shah. Gobind Ballabh Pant Hospital, New Delhi, India: Roshan George, Arpan Jain, Anurag Mishra, Sanjeev Sachdeva, Alok Kumar Singh.

Contributors SJ, AA, DG, SDC, VS, SS, RK and AS: study design, critical inputs, collection of data and manuscript writing. SM, VS and other members of GAIN study group: collection of data.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

► Additional material is published online only. To view please visit the journal online (http://dx.doi.org/10.1136/gutjnl-2020-323154).

To cite Jagannath S, Agarwal A, Gunjan D, *et al*. *Gut* 2021;**70**:1805–1806.

Received 28 September 2020
Revised 26 October 2020
Accepted 26 October 2020
Published Online First 6 November 2020

Gut 2021;**70**:1805–1806. doi:10.1136/gutjnl-2020-323154

ORCID iDs
Deepak Gunjan http://orcid.org/0000-0002-0609-3135
Anoop Saraya http://orcid.org/0000-0002-3921-6752

REFERENCES

1 Hayee Bu'Hussain, East J, *et al*, SCOTS project group. Multicentre prospective study of COVID-19 transmission following outpatient Gi endoscopy in the UK. *Gut* 2021;70:825–8.
2 Rutter MD, Brookes M, Lee TJ, *et al*. Impact of the COVID-19 pandemic on UK endoscopic activity and cancer detection: a national endoscopy database analysis. *Gut* 2021;70:537–43.
3 Sultan S, Lim JK, Altayar O, *et al*. AGA rapid recommendations for gastrointestinal procedures during the COVID-19 pandemic. *Gastroenterology* 2020;159:739–58.
4 Gralnek IM, Hassan C, Beilenhoff U, *et al*. ESGE and ESGENA position statement on gastrointestinal endoscopy and the COVID-19 pandemic. *Endoscopy* 2020;52:483–90.
5 Coronavirus in India: latest map and case count. Available: https://www.covid19india.org [Accessed 19 Sep 2020].
6 MoHFW. Home. Available: https://www.mohfw.gov.in/ [Accessed 19 Sep 2020].
7 7 overview | COVID-19 rapid guideline: arranging planned care in hospitals and diagnostic services | guidance | NICE. Available: https://www.nice.org.uk/guidance/ng179 [Accessed 19 Sep 2020].