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CONVERSION RATE FOR COVID19 IN NEW YORK CITY: IMPACT OF
SOCIAL DISTANCING AND UNIVERSAL MASKING
Kaveh Hajibabaal, talal sharahia, Moruka M. Salferd, Seth A. Gross, Nikhil A. Kumta,
Sammy Ho, Sanad M. Dawod, Juan Carlos Bucobu, Reem Z. Sharahia

We reported the results of our multicenter cohort study in all patients who presented for endoscopy between March 1 and May 17 and were evaluated before their endoscopy for SARS-CoV2 and were followed after their endoscopy for COVID-19 status. This cohort enabled us to calculate the conversion rate from COVID-19 negative to positive during the study period and evaluate the change in conversion rate with the implementation of social distancing and masking at the population level in New York City. Data were retrieved from electronic medical records systems of six tertiary care centers in New York City. We identified all adult patients who had endoscopy between March 1, and May 17, 2020. Conversion was defined as having a negative COVID-19 status before endoscopy and a positive status afterwards. Participants COVID-19 status was defined based on SARS-CoV2 PCR test or a combination of symptoms (Fever plus at least one of: dyspnea, cough, dysgeusia, or anosmia). Patients were evaluated before endoscopy and then by phone or telehealth visit afterwards. Spline regression was used to evaluate the conversion rate before and after adoption of social distancing (March 20, 2020) and mandatory masks (April 15, 2020) in New York City. Of the 1467 patients presenting for endoscopy during the study period, we had follow-up data on 1222 patients (51% outpatients and 49% inpatient endoscopies). Overall, 78 participants (6.38 %) converted after endoscopy (74 with a positive PCR, and 4 with symptoms as defined above), at a median of 23 days after endoscopy (IQR 11 to 42 days). Patients had a mean age of 62±15 years, and were 62% male (n=481). Multivariable analysis demonstrated that date of endoscopy, institution, and presence of cardiovascular disease were the independent predictors of conversion after endoscopy, with cardiovascular disease associated with a more than 2 fold increase in the risk of conversion (OR=2.1, 95%CI 1.2-3.6, p=0.009). The range of conversion from the six institutions varied widely (1 to 11%, p=0.032). Overall, participants whose endoscopies were performed later during the study period had a lower risk of conversion (OR for one week=0.87, 95%CI 0.80-0.94; p=0.001). Before social distancing, conversion rate was 8.4% on average and was increasing by 2.3% per week (p<0.001). After social distancing, the conversion rate was 6.7% on average, and started to decrease by 4.2% per week (p<0.001). After mandatory masks, the conversion rate was 2.2% on average but has started to increase slowly by 0.9% per week (p<0.001). Figure 1: These findings do support decrease in conversion rates amongst New Yorkers who presented for endoscopy with the implementation of social distancing and mandatory masking. We believe the slow but significant increase in conversion rates by the end of May reflects the relative loosening in social distancing in New York City.

| Week | Conversion Rate % |
|------|------------------|
| 1    | 8.4              |
| 2    | 11.7             |
| 3    | 15.4             |
| 4    | 19.7             |
| 5    | 24.0             |
| 6    | 28.3             |
| 7    | 32.6             |
| 8    | 37.0             |
| 9    | 41.4             |
| 10   | 45.8             |
| 11   | 50.2             |
| 12   | 54.6             |
| 13   | 59.0             |
| 14   | 63.4             |
| 15   | 67.8             |
| 16   | 72.2             |
| 17   | 76.6             |

Figure 1: Post-endoscopy COVID-19 conversion rate by day of occurrence, before social distancing (3/20/2020), after social distancing, and after mandatory mask (4/15/2020).

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faecal immunochemical test (FIT) FOR triaging symptomatic patients – putting UK NICE GUIDELINES INTO PRACTICE
Ash Bassi

Introduction: Endoscopy capacity has been under pressure during the COVID19 crisis. FIT affords the opportunity to identify a high risk group in whom urgent colonoscopy can be justified to exclude colorectal cancer (CRC). It allows identifying patients in the low risk group in whom any endoscopy avoided. We describe our experience of using quantitative FIT to guide referral for CRC from primary care using the UK NICE guidance criteria.

Methodology: Over a six month period all patients were assessed during consultation in primary care to determine if they met the criteria of NICE NG12 or the DG30 guidelines. FIT was requested at the time of this assessment. The NG12 guideline states that patients over 40 years with unexplained weight loss and abdominal pain, patients over 50 with unexplained rectal bleeding and patients over 60 with iron deficiency anaemia and change in bowel habit should all be referred for suspicion of CRC on the high risk pathway. The DG30 guideline advises patients to be referred on the low risk pathway if patients are aged 50 and over with unexplained abdominal pain or weight loss, patients aged 60 and under with change in bowel habits or iron deficiency anaemia. All patients on the high risk pathway (NG12) were referred into secondary care for assessment / investigations while patients on the low risk pathway (DG30) were referred only if they met the FIT threshold of 10 mg Hb/g or had new iron deficiency anaemia. In secondary care, clinical judgement was applied regarding the need for any further investigations.

Results: 535 patients fulfilled the criteria for the low risk pathway and 364 were on the high risk pathway. Only 10% (n = 101) of the patients on the low risk pathway met the
PREVALENCE OF COVID-19 AMONG OUTPATIENTS PRESENTING FOR NON-URGENT ENDOSCOPY IN A LARGE HEALTHCARE NETWORK
Camille Soroudi, Bao Sean Nguyen, Natalia Garcia Peralta, Liu Yang, Michael Rofail, Lynn Cormolly, Kevin A. Ghassemi, Eric Esrailian, Folakemi (Fola) P. May

Background: In response to the COVID-19 pandemic and national professional gastroenterology society guidelines, UCLA Health implemented system-wide policies for safe non-urgent endoscopy on 4/13/2020. These policies included mandatory nasopharyngeal COVID-19 testing 48 hours prior to all outpatient procedures. We aimed to determine the COVID-19 positive rate among outpatients presenting for elective gastrointestinal (GI) procedures and to characterize patients who tested positive for COVID-19.

Methods: UCLA Health is a large, integrated healthcare system with 5 outpatient endoscopy units across Southern California. Our study cohort included all patients scheduled for one or more outpatient procedures (colonoscopy, EGD, sigmoidoscopy, manometry, EUS, ERCP) who underwent pre-procedure COVID-19 testing from 4/13/2020 to 11/5/2020. We developed an electronic dashboard to track procedure date, type, and completion status, pre-procedure COVID-19 test results 48 hours prior to procedure, and post-procedure COVID-19 test results up to 14 days after a procedure. We queried the electronic health record for patient data, performed manual chart review to identify COVID-19 symptoms, and used administrative data to determine COVID-19 exposures to gastroenterology providers and staff. Our primary outcome was the pre-procedure COVID-19 positive rate. We also determined COVID-19 symptom prevalence and cases of new COVID-19 positivity post-procedure. We used univariate and multivariable logistic regression to determine factors associated with a positive pre-procedure COVID-19 test, controlling for age, sex, race/ethnicity, and BMI.

Results: The study cohort included 9,645 patients, representing 10,056 total outpatient scheduled GI procedures (Table 1). The cumulative pre-procedure positive rate was 0.3% (n=28), and the inconclusive rate was 0.1% (n=7, Figure 1). One patient had a new positive COVID-19 result post-procedure (day 4), associated with new cough. There were no known COVID-19 exposures among gastroenterology faculty and staff. Of patients with a pre-procedure positive COVID-19 result, 13 (46.4%) were asymptomatic and 10 (35.7%) had COVID-19 exposures among gastroenterology faculty and staff. Our study cohort included all patients scheduled for one or more outpatient procedures (colonoscopy, EGD, sigmoidoscopy, manometry, EUS, ERCP) who underwent pre-procedure COVID-19 testing from 4/13/2020 to 11/5/2020. We developed an electronic dashboard to track procedure date, type, and completion status, pre-procedure COVID-19 test results 48 hours prior to procedure, and post-procedure COVID-19 test results up to 14 days after a procedure. We queried the electronic health record for patient data, performed manual chart review to identify COVID-19 symptoms, and used administrative data to determine COVID-19 exposures to gastroenterology providers and staff. Our primary outcome was the pre-procedure COVID-19 positive rate. We also determined COVID-19 symptom prevalence and cases of new COVID-19 positivity post-procedure. We used univariate and multivariable logistic regression to determine factors associated with a positive pre-procedure COVID-19 test, controlling for age, sex, race/ethnicity, and BMI.

Discussion: Implementation of mandatory COVID-19 testing before outpatient GI procedures was successful, and the positive rate was low. Common symptoms among patients with a positive pre-procedure COVID-19 result were cough, fevers, and chills. Although they were not mandating, post-procedure positive COVID-19 results were rare.

Table 1: Patient characteristics overall and by pre-procedure COVID-19 test result

| Patient characteristic | All patients | Negative | Inconclusive | Positive |
|------------------------|-------------|----------|--------------|----------|
| Age (mean ± SD)        | 63.3 ± 14.6 | 63.0 ± 14.6 | 65.0 ± 14.7 | 59.1 ± 11.2 |
| Gender [%]             | Male        | 5424 (56.4%) | 5424 (56.4%) | 19 (0.7%) | 4 (0.7%) |
|                       | Female      | 4065 (43.6%) | 4065 (43.6%) | 9 (0.4%) | 3 (0.5%) |
| Race [%]               | Hispanic    | 5125 (53.1%) | 5125 (53.1%) | 6 (0.1%) | 2 (0.4%) |
|                       | Non-Hispanic White | 5666 (59.6%) | 5666 (59.6%) | 13 (0.5%) | 1 (0.2%) |
|                       | African-American | 661 (6.9%) | 661 (6.9%) | 4 (0.2%) | 2 (0.4%) |
|                       | Asian       | 679 (7.1%) | 679 (7.1%) | 2 (0.1%) | 8 (0.9%) |
|                       | Other       | 748 (7.8%) | 748 (7.8%) | 4 (0.2%) | 3 (0.3%) |

Figure 1: Pre-procedure COVID-19 testing by result (per month and overall).

GAS LEAKS FROM BIOPSY VALVES OF GASTROINTESTINAL ENDOSCOPY - ITS VISUALIZATION AND SEMI-QUANTIFICATION UTILIZING SCHLIEREN OPTICAL SYSTEM
Tomo Ishida, Kenta Naka, Kenji Fujiyama, Kotaro Yamahata, Takuro Saito, Koji Tanaka, Tomoki Makino, Tsuyoshi Takahashi, Yukinori Kurakawa, Maloto Yamashita, Hitotsubashi Eguchi, Yuichiro Doki, Kyohei Nakajima

<Background> With the global epidemic of COVID-19, there has been a growing concern about the risk of exposure to the virus among healthcare workers. Gastrointestinal (GI) endoscopy has been considered as one of the high infectious procedures because of the high risk of aerosol exposure. However, that caution is mainly directed at secretions and aerosols from the patient’s mouth, and less attention is currently paid to air leaks from the endoscopic system itself. Although a few reports have been published on air leaks from GI endoscopic systems, no systematic and quantitative studies of air leaks have been conducted. Schlieren system is an optical device for visualizing minute changes in airflow that are invisible to the naked eye, by using differences in the refractive index of the medium, and has been mainly used in the field of engineering. We aimed to systematically evaluate air leaks from GI endoscopic systems using Schlieren system, and to determine the relationship between the amount of leakage and insufflation conditions including the types of biopsy valves.

<Methods> The following experiments were performed on explanted swine stomachs and a manikin stomach to identify COVID-19 symptoms, and used administrative data to determine COVID-19 exposures to gastroenterology providers and staff. Our primary outcome was the pre-procedure COVID-19 positive rate. We also determined COVID-19 symptom prevalence and cases of new COVID-19 positivity post-procedure. We used univariate and multivariable logistic regression to determine factors associated with a positive pre-procedure COVID-19 test, controlling for age, sex, race/ethnicity, and BMI.

Discussion: Implementation of mandatory COVID-19 testing before outpatient GI procedures was successful, and the positive rate was low. Common symptoms among patients with a positive pre-procedure COVID-19 result were cough, fevers, and chills. Although they were not mandating, post-procedure positive COVID-19 results were rare.

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|                       | Asian       | 679 (7.1%) | 679 (7.1%) | 2 (0.1%) | 8 (0.9%) |
|                       | Other       | 748 (7.8%) | 748 (7.8%) | 4 (0.2%) | 3 (0.3%) |

Figure 1: Visualization of air leak from biopsy valve