

# Chest imaging and RT-PCR test for acute abdominal pain during COVID-19 pandemic

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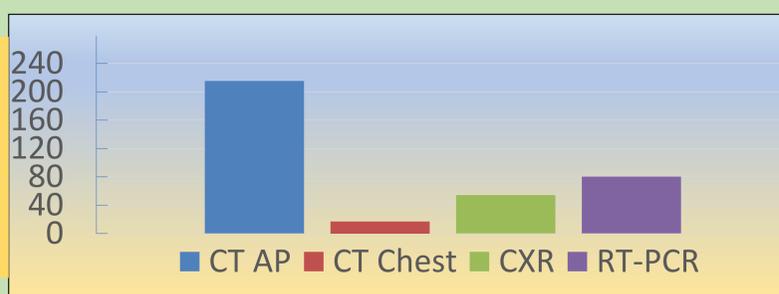
## Introduction

- Coronavirus disease (COVID-19), which is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was first identified in December 2019 in Wuhan, China, and has since spread rapidly, evolving into a full-blown pandemic<sup>1</sup>.
- Challenges about COVID-19 testing were observed in UK<sup>2</sup>, and difficult decisions to operate on unknowingly COVID-19 positive patients were a major concern.

## Patients and Methods

- During COVID-19 crisis (March - June, 2020), a Retrospective study was conducted on 279 patients presented to the Surgical Assessment Unit with acute abdominal pain.
- Age of patients ranged between 18 to 99 years (mean 46.6 ± SD 18.3) of whom 54% were female
- Computed Tomography of abdomen and pelvis (CTAP) was performed on 215 patients.
- Chest CT scan was performed on 17 patients.
- Chest radiograph (CXR) performed on 54 patients.
- COVID-19 swab test (RT-PCR) was performed on 80 patients who were suspected to have COVID-19.

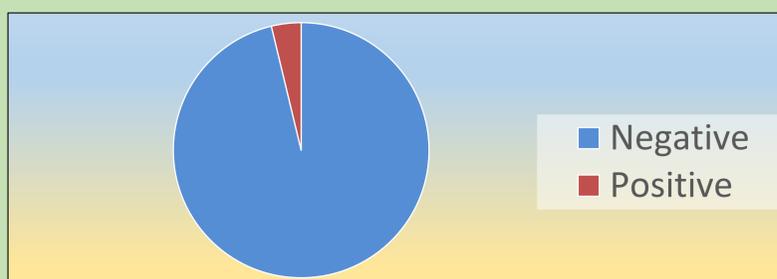
**Figure 1:** Number of patients underwent investigations.



## Results

- Forty-three patients required urgent abdominal operations among those 215 who were investigated by CTAP.
- RT-PCR was positive among 3/80 patients who were clinically suspected to have COVID-19.

**Figure 2:** RT-PCR results for 80 patients with abdominal pain.



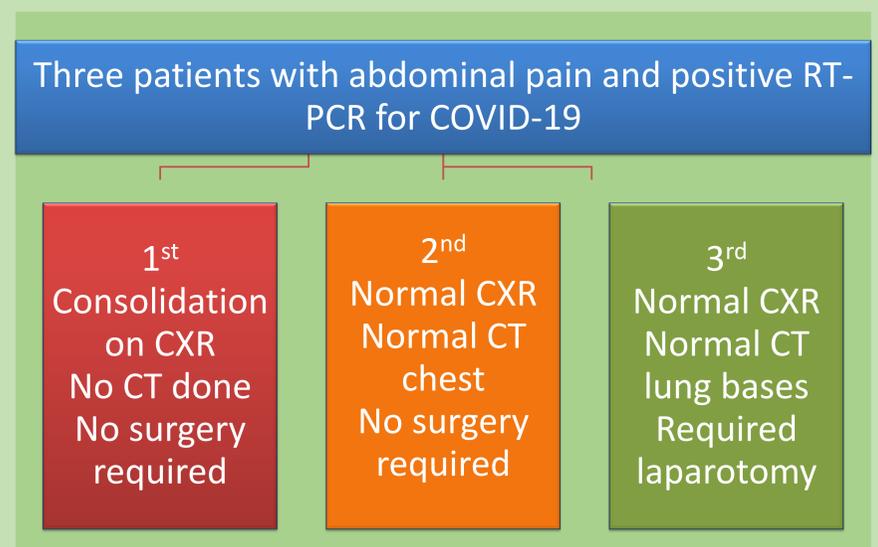
CT chest was performed on 17 patients, 4 of whom were suspected to have COVID-19, but RT-PCR negative for all of them.

- Variable degrees of shadowing on CXR was reported on 13/54 patients, but only one of them with consolidation was RT-PCR positive and fortunately did not require surgical intervention.

Investigation	Suspected COVID-19	RT-PCR positive	RT-PCR negative
CT Chest	4	0	4
CXR	13	1	12

**Table:** Imaging and RT-PCR results.

- The second RT-PCR positive patient (normal CT chest and clear CXR) was treated conservatively.
- The third RT-PCR positive patient was operated upon unknowing his COVID-19 positive result and had normal CXR.



## Conclusions

- The risk to operate during emergency on unknown COVID-19 positive patients is a real one.
- Investigations such as CT chest or chest radiography are of limited value in the identification of these patients.
- COVID-19 RT-PCR results are usually delayed.
- More informative panel of COVID-19 revealing investigations is required to aid in the surgical decision to take patients to theatre.

## Contact

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