

TRIAGING OF NON-COVID SUSPECT OBSTETRIC POPULATION AT A TERTIARY HOSPITAL USING TRUENAT : OUR EXPERIENCE

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Abstract

In a pandemic, where it is impossible to distinguish a pauci-symptomatic/asymptomatic patient, all must be regarded as potentially infected. The symptoms of COVID-19 are non-specific and cannot alone be used for screening. On detecting significant positive women in Non-covid suspect obstetric population led to change in strategies. Application of Truenat test for Covid screening in these asymptomatic obstetric patients on admission led to appropriate segregation of infective patients and avoided extra burden on RT-PCR lab. Our experience may be informative in re-adjusting the existing policies for other healthcare systems while setting up a mixed Covid- obstetric setting.

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INTRODUCTION

Diagnostic tests are important tools to meet the continuing and evolving public health needs. Initially, a risk-based approach along with clinical symptoms was used as a criteria for Covid testing by RT-PCR test. Subsequently, the testing criteria were revised and Truenat test was recommended as a screening tool to test low risk population followed by a confirmatory RT-PCR test.

Healthcare facility may conduct screening of asymptomatic individuals as part of a strategy to ensure the safety of healthcare workers and other patients. We began triaging low risk obstetric population by utilising Truenat test to screen them. The purpose of this review is to suggest quick key points of strategies to implement in obstetric units.

BACKGROUND

As the Covid pandemic spread and affected the community at large, a significant number of asymptomatic pregnant females were found positive for the disease. Also, the turn-around time for RTPCR test reports was long (48-72 hours) as the health facility was catering to a large number of samples within and outside the hospital. Hence, the stay of these infected but asymptomatic women in non-infected zone while awaiting results posed a risk of infection to health care workers and uninfected patients. So, a decision to screen these asymptomatic pregnant females by a test which would yield quicker results was taken to ensure appropriate segregation and movement of these women.

CHANGING STRATEGIES

The obstetric care area was modified according to the new clinical needs and divided into three separate sections : Green, Orange and Red zones for non-Covid suspect, Covid suspect and Covid positive patients respectively.

All admissions were screened for Covid-19 by verbal questionnaire method. Covid suspect patients were tested by RT-PCR on admission to Orange zone. Asymptomatic patients were admitted to non Covid suspect (GREEN) zone and no covid testing was done. In case, these green zone patients developed symptoms during hospital stay or were being taken up for Elective surgery or were a contact of Covid positive family member, they were tested by RT-PCR.

With the spread of the pandemic, the patients in our green zone (asymptomatic healthy pregnant females) also had a significant positive report. Due to this the healthcare workers in the green zone as well as the non-infected pregnant females were at risk of exposure as they looked after different zone patients in different levels of PPE.

After taking approval from Institutional Review Board, we implemented the Truenat test as Universal screening for this low risk population while keeping them in a holding area for a short period. After the Truenat test report was found negative, they were shifted to the Green zone along with the healthy individuals. The pregnant females having positive Truenat report were shifted to the isolated area in Orange zone and a confirmatory RTPCR test was sent. (**FIGURE 1**) . These women were later managed and discharged as per the institutional policy. After discharge, these women were followed up on day 15 for development of any Covid related symptoms.

“CAUTION IS THE KEY”

A study of the passengers on the Diamond Princess Cruise ship estimated the proportion of asymptomatic persons as 17.9% (95%CrI: 15.5-20.2%) among all infected cases. Therefore, the actual number of infected individuals may be much higher than accounted for based on symptoms only.¹ Out of 81 women testing positive for Covid in May 2020, 30.8% (25/81) belonged to the green zone. These asymptomatic or paucisymptomatic cases would be potential source of infection.

These women were being tested by RT-PCR (Reverse Transcription Polymerase Chain Reaction test) considered to be the gold standard for identification of SARS-CoV-2 virus. These swabs needed to be sent to lab while maintaining cold-chain (temperature- 2-4°C). Limitations included storage of testing kit and samples under stringent low temperature conditions. The test also relies on the analyst's capabilities while testing and interpretation of results. At a time when all suspected patients were being subjected to RT-PCR and the facility was overloaded with the sample size, subjecting asymptomatic patients too to RT-PCR was not feasible. Our tertiary care hospital was struggling to accommodate high sample load from all over the city. Hence, the results of RT-PCR were coming by 48 hrs. So, the need for a rapid diagnostic test was felt.

As ICMR approved molecular diagnostic tests (Truenat test) for testing low-risk individuals, we immediately deployed this test to test our green zone women as a universal screening method.³Truenat-beta is a chip-based RT-PCR test, kit stable at room temperature and offering quick results. It effectively enabled early testing, reporting within 2 hours of receiving the sample and earlier patient isolation initiation (if required).

After utilising Truenat test, we detected 27 Covid positives (38.5% of total 70 Covid positive women) from holding area and hence prevented them from mixing with Green zone women. These Truenat positive women were isolated in orange zone and tested for confirmatory RT-PCR test as recommended by ICMR .

Out of these 27 Truenat positive women, 22 could be tested for RT-PCR. Rest 5 could not be tested due to various reasons (1 patient expired, one destitute patient could not be traced and 3 were sent for home isolation as hospital laboratory was not working). 19 of these 22 (86.3 %) were confirmed positive and sent to Red zone. 3 had negative RT-PCR. They were asymptomatic and no history of contact with symptomatic persons. We concluded that the initial sample might have been contaminated.

Telephonic follow-up was done for these women and out of the 22 Truenat positives, 63.6% (n=14) stayed

asymptomatic and 36.3% (n=8) were symptomatic anytime within 14 days after sampling.

79 % Truenat results (106 out of 135) were dispatched on the same day. This policy had an added advantage of reducing the burden on microbiology laboratory as well as reduced hospital stay as the results came in early. Also, this helped in early segregation of positive patients.

CONCLUSION

In a pandemic where it is impossible to distinguish a pauci-symptomatic/asymptomatic patient, all must be regarded as potentially infected. The symptoms of COVID-19 are non-specific and cannot alone be used for screening. Application of Truenat test for Covid screening led to appropriate segregation of patients. Our experience may be informative in re-adjusting the existing policies for other healthcare systems while setting up a mixed Covid- obstetric setting.

DECLARATION OF CONFLICT.

I declare no potential conflict of interest with respect to research authorship or publication of this article

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FIGURE.pdf available at <https://authorea.com/users/369328/articles/488230-triaging-of-non-covid-suspect-obstetric-population-at-a-tertiary-hospital-using-truenat-our-experience-nain-shilpi-dnb-ficog-singh-meenakshi-puri-manju-rai-yogita-chaudhary-vidhi>