



Editorial

Microbiology laboratory: A backbone for COVID management

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1. Introduction

Over the past 2 decades, coronaviruses (CoVs) have been associated with significant disease outbreaks in East Asia and the Middle East. The severe acute respiratory syndrome (SARS) and the Middle East respiratory syndrome (MERS) began to emerge in 2002 and 2012, respectively. Recently, a novel coronavirus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), causing coronavirus disease 2019 (COVID-19), emerged in late 2019, and it has posed a global health threat, causing an ongoing pandemic in many countries and territories.¹ CoVs belong to the family Coronaviridae (subfamily Coronavirinae), the members of which infect a broad range of hosts. SARS-CoV-2 is considered one of the seven members of the CoV family that infect humans,² leading to a pandemic.

Microbiology laboratories play a vital role in diagnosis of Infectious Diseases particularly viral diagnosis. In COVID management there is a vibrant role of a Microbiologist which starts with proper collection and transport of sample, followed by establishment of virology laboratory. In the laboratory it is the responsibility of a microbiologist to carry out the tests like PCR, Rapid Antigen Test or Antibody tests. RT PCR test requires skill, patience and dedication for which training in molecular technologies is required. Rapid antigen testing is made available now which is used for

screening of large population for COVID-19 and antibody tests for sero-surveillance of various groups.

Microbiology labs not only conduct different tests but they are also involved in development and production of new tests with high sensitivity and specificity. Along with these, microbiologist has to look after the Infection Control Practices in Hospital, Proper biomedical waste management, Teaching and Training of Medical staff about COVID Diagnosis and Prevention. Microbiology lab becomes an important part or essential part of Research related to COVID diagnosis, management, prevention or vaccine development.

To combat this COVID pandemic Indian Council of Medical Research is helping all laboratories by formulating guidelines. Every functional laboratory is following these guidelines and since the guidance evolves periodically, the latest revised version is followed. Testing laboratories also ensure timely reporting to State health Officials for rapid initiation of contact tracing and report is also uploaded on the online portal of ICMR. Funds are provided for research projects that have direct bearing on the applicability of their outcome for the benefit to the public.

While dealing with COVID-19, Microbiology laboratories have to overcome many challenges and at times resource limitations. The labs require trained staff in molecular lab so all microbiologists along with the technicians have to undergo this training to work in virology labs. After setting up a lab there is a mandatory

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requirement by ICMR to have a NABL Accreditation for private Medical colleges and private labs to ensure quality and technical competence. This competence is not required from Govt set up. The research funds are usually provided to the government labs leading private institutes to lag behind in research due to this discrimination.

In spite of these challenges, Microbiologists are ready to deal with COVID converting every problem into an opportunity and helping the mankind in this pandemic.

2. Conflict of Interest

None.

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