

CORRESPONDENCE

Maintainance of Diagnostic Laboratory during pandemic emergency (SARS-CoV-2) in a small Hospital

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To the Editor,

The SARS-CoV-2 disease has then in undated the hospital system with unpredictable impact on healthcare organization. In this unprecedented moment of crisis, laboratory services, as an integral part of multi-specialty hospitals, had to face the outbreak, in particular, guaranteeing the diagnostic activity despite the fact that the laboratory is equipped to urgently provide the Covid-19 PCR test and rapid antigen tests (1-2).

Therefore, the Covid-19 pandemic has forced the Laboratory Medicine Services to address sudden organizational changes, putting them at risk maintaining adequate analytical quality. Laboratory Medicine has provided a fundamental contribution and it has assumed an essential role during the pandemic caused by SARS-CoV-2 (3-4). We describe a real-life experience at the our laboratory, a small hospital in Fidenza (Italy), which underwent a progressive adaptation of our Clinical Patology and Microbiology Laboratory in response to the rapidly evolving COVID-19 emergency in the Emilia-Romagna Region.

This experience started on March, when our regional government authorized laboratories to perform real-time PCR assays and rapid antigen tests to detect SARS-CoV-2 RNA in nasopharyngeal swab samples. In 10 days in our laboratory a room was set up for the execution of COVID tests.

On 1th June, the laboratory examined approximately 42.122 samples using RT-PCR and 35.348 Rapid antigen-tests.

Of the samples analyzed by RT-PCR (Liaison-MDX *DiaSorin-Molecular* and Xpert-Cepheid), 4.42% were positive for the presence of viral RNA, of

these 56.2% in the male age with a difference in the age group between 18 and 93 years.

Of the Rapid antigen-tests analyzed by *Menarini Diagnostics SARS-CoV-2 Test* that Determine High, Low Viral Loads, 1.93% were positive for the presence of viral RNA, of these 51% were male.

We carried out 50.206 IgG/IgM assays for qualitative and quatitative assessment of SARS-CoV-2 antibody using iFlash 1800-Pantec.

The impact of the protective measures adopted on many levels to minimize the risk for staff was assessed considering as gold standard the continuous provision of essential and critical services.

Under the strict and multi-domain protective measures implemented at our Laboratory very early, not one staff member has been diagnosed with SARS-CoV-2 infection, as confirmed by negative results of serology testing (IgM and IgG) for SARS-CoV-2, performed at the beginning of Pandemic.

Our results have been obtained with a proactive approach to the presenting difficulties, by sharing all decisions with the staff and by adopting transformation measures. Detailed knowledge of the workflow allowed rapid changes and resilience perspective allowed the re-addressing of our organization focused on staff's need of safety and tranquility.

We have successfully developed internal guidelines and preventive strategies, adapting the existing SOPs and transforming the existing facilities as quickly as possible, to face the new situation, even before institutions reacted.

In conclusion, our findings support the concept that the our laboratory can be extraordinarily responsive to emergencies like the one we are experiencing.

As Prof. Plebani said “*do not miss the opportunity, thanks to the visibility gained from the pandemic, to provide further evidence of the central role played by laboratory medicine in modern, personalized medicine*” (5).

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