SARS-CoV-2 containment in complex surgical units during the COVID-19 pandemic

Editor

The COVID-19 pandemic has placed an extreme burden on healthcare systems worldwide[1–3]. Surgical activity has been reduced to free up resources for where they are most needed, or because of unit closure due to spread of the infection among healthcare providers[4,5]. However, all efforts should be taken to maintain some surgical activity (safely) as we prepare for the next stages[6]. This includes use of safe air and aerosol/smoke management systems[7].

We followed up all 94 personnel (surgeons, nurses and administrative staff) in two surgical units on one floor of the University Hospital of Padua from 11 March 2020. Two staff members tested positive for SARS-CoV-2 infection and were quarantined, while the remaining personnel were not positive but underwent scheduled swab testing every 5 days and serology after 2 weeks (*Fig. 1*). Staff had swab tests every 20 days, and were followed up clinically to 21 April. Because of a shortage of protective equipment, from the beginning of the COVID-19 epidemic in Italy all personnel in the two surgical units were equipped with simple surgical masks to be worn at work. FFP2 or FFP3 masks were rationed and used only when dealing with high-risk patients. Gloves were worn only during patient contact and screen or goggles were not provided. At the first reverse transcriptase PCR test, the remaining personnel tested negative for SARS-CoV-2 infection. Two further asymptomatic staff members tested positive at different time points. At serology, all remaining subjects tested negative for SARS-CoV-2-specific IgM. Up to 21 April, all staff members that had tested positive had recovered, and no further cases occurred among surgical staff. Admitted patients, tested 2 days before admission, were all clear. This approach permitted two surgical units to keep working during the pandemic.

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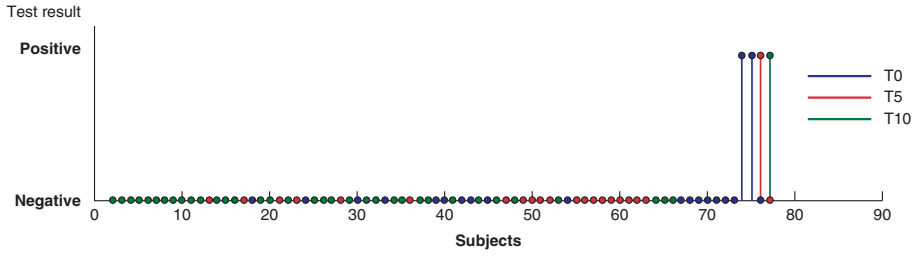
Fig 1 Reverse transcriptase PCR SARS-CoV-2 testing



Vertical lines represent two staff members who were positive on day 0, one who was negative on day 0 and positive on day 5, and one who was negative on day 5 and positive on day 10. Several staff members were tested at different periods and are not shown here. All the remaining personnel did not test positive for SARS-CoV-2. T0, day 0; T5, day 5; T10, day 10.