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COMMENTARY

FTA cards for COVID 2019 samples: easy and cost effective innovation!

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The spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) across more than 28 countries has led to global preparedness to contain the threat. Innovative infection control practices are being carried out at hospitals for the prevention of SARS-CoV-2 among health care workers. Chen X and Colleagues successfully implemented an electronic observing system for monitoring activities of healthcare workers so as to prevent nosocomial spread of SARS-CoV-2 [1]. Thus, simple and innovative steps may pave a way for the containment of infectious agents of pandemic potential. Thus, a simple innovation if adopted for sample collection and transportation of clinical samples collected from suspected Coronavirus disease-19 (COVID-19) patients can mitigate the risk associated with transportation of swabs in liquid viral transport media in cold chain. Presently, molecular tests are being utilized for the diagnosis of COVID-19. In resource limited countries only few of the laboratories have the are capable of carrying out molecular testing. Therefore, samples from suspected patients are being sent in cold chain from distant hospitals. The major limitation in sending the respiratory samples in viral transport media requires proper triple packaging and to maintain cold chain sufficient number of frozen ice packs are kept in the transport container which increases the weight of the container to be transported, which further increases the cost of transportation. Moreover, there are chances of spillage during transportation and failure to maintain adequate cold chain may compromise the quality of samples and test results may turn out to be negative especially if RNA is being tested by Real-time PCR or by conventional PCR.

Samples if collected on Finders Technology Associates (FTA) cards then large number of samples can be transported at room temperature as nucleic acid remains stable on FTA cards, which are pre impregnated with chemicals on cotton-based cellulose paper that lyse cells, inactivate proteins, and bind and stabilize nucleic acids [2]. FTA cards have been successfully used in the past for molecular testing of various pathogens such as HIV and malaria [3, 4]. Keeler SP and Colleagues have successfully used these cards for molecular detection of Avian Influenza virus in wild birds wherein swab is smeared on cards [5]. Thus, nasopharyngeal swabs or throat swabs collected from suspected patients of COVID 2019 and swabs can be smeared on FTA cards that can be sent by post in ziplock pouches to distant laboratories at room temperature. Thus, cost can be decreased by implementing this strategy after pilot studies.

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Declarations

Conflict of interest The author declare that there is no conflict of interest.

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References

1. Chen X, Tian J, Li G, Li G. Initiation of a new infection control system for the COVID-19 outbreak. Lancet Infect Dis. 2020. https://doi.org/10.1016/S1473-3099(20)30110-9.
2. Hall-Mendelin S, Hewitson GR, Genge D, Burtonclay PJ, De Jong AJ, Pyke AT, et al. FTA cards facilitate storage, shipment, and detection of arboviruses in infected aedesaegypti collected in adult mosquito traps. Am J Trop Med Hyg. 2017;96(5):1241–3. https://doi.org/10.4269/ajtmh.16-0981.
3. Hashimoto M, Bando M, Kido JI, Yokota K, Mita T, Kajimoto K, et al. Nucleic acid purification from dried blood spot on FTA Elute Card provides template for polymerase chain reaction for highly sensitive Plasmodium detection. ParasitolInt. 2019;73:101941. https://doi.org/10.1016/j.parint.2019.101941.
4. Mbida AD, Sosso S, Flori P, et al. Measure of viral load by using the Abbott Real-Time HIV-1 assay on dried blood and plasma spot specimens collected in 2 rural dispensaries in Cameroon. J Acquir Immune DeficSyndr. 2009;52(1):9–16. https://doi.org/10.1097/QAI.0b013e3181aeccbc.
5. Keeler SP, Ferro PJ, Brown JD, Fang X, El-Attrache J, Poulson R, et al. Use of FTA sampling cards for molecular detection of avian influenza virus in wild birds. Avian Dis. 2012;56(1):200–7.