

P0105 Improving the detection of respiratory virus in saliva specimens by centrifugationKelvin Kai Wang To*¹, Antony Ng¹, Deborah Ho¹, Polly Pang¹, Kit-Hang Leung¹, Cyril Yip¹¹ Pokfulam, Hong Kong

Background: Saliva is gaining popularity in the diagnosis of respiratory virus infection because of the ease of specimen collection. However, the sensitivity of saliva is slightly lower than that of using nasopharyngeal specimens. This study aims to evaluate whether centrifugation of saliva using a benchtop centrifuge can enhance the detection of respiratory viruses.

Materials/methods: We prospectively collected saliva from adult hospitalized patients whose nasopharyngeal aspirate (NPA) tested positive for respiratory virus. Viral transport medium was added to the saliva. One part of the saliva was centrifuged using a benchtop centrifuge at 13,000 rpm for 5 min, while another part remained uncentrifuged. Reverse transcription-quantitative polymerase chain reaction for respiratory viruses was performed on both uncentrifuged and centrifuged saliva specimens.

Results: Saliva specimens were collected from 55 patients, including 42 (76.4%) with influenza A virus and 13 (23.6%) with other respiratory viruses detected in their NPA. Respiratory virus was detected in at least one of the saliva specimen preparations in 51 patients (92.7%) (Figure 1A). Among 5 patients whose uncentrifuged saliva tested negative for respiratory viruses, 1 patient (20%) had respiratory virus detected in the centrifuged saliva sediment. Among the 51 patients with respiratory virus detected in at least one saliva preparations, the viral loads were higher in the centrifuged saliva sediment than uncentrifuged saliva in 28 patients (54.9%), and were higher in the supernatant than uncentrifuged saliva in 5 patients (9.8%). The viral loads in the centrifuged saliva supernatant ($\rho=0.9090$) or sediment ($\rho=0.8412$) were highly correlated with those of uncentrifuged saliva (Figure 1B).

Conclusions: Testing centrifuged saliva sediment in addition to testing uncentrifuged saliva would increase the detection rate of respiratory viruses in saliva specimens. Since only a standard benchtop centrifuge is required, our method can be easily implemented in any clinical microbiology laboratories.

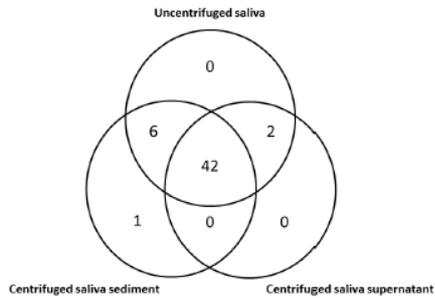
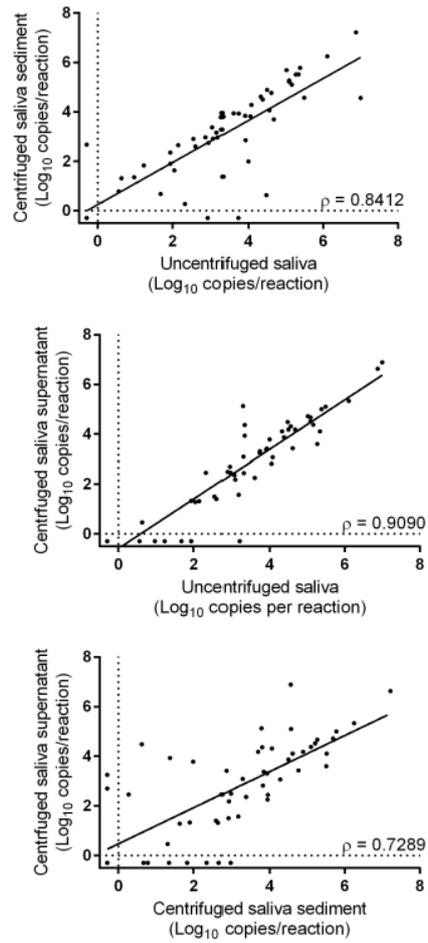
A**B**

Figure 1. The effect of centrifuge on the detection of influenza virus in saliva specimens. A) Venn diagram showing the number of specimens with influenza virus detected. B) Correlation of the viral load between different specimen preparations.

