A comparison between GeneXpert testing and the Berlin-Charité diagnostic protocol for the detection of SARS-CoV-2 in a cohort of Mexican patients.

Eduardo Becerril Vargas[1], Andrea Delgado Cueva[1], Gabriel Cojuc Konigsberg[1], Gaston Becherano Razon[1], Yessica Velasco Garcia[1], José Martinez orozco[1], Angel Sanchez Tinajero[1], Danna Patricia Ruiz Santillán [1], Diana Vilar-Compte[2], Daniel de la Rosa Martinez[2], Etzael Antonio Juarez[1], Victor Rodriguez Sanchez[1], Daniel Valencia Trujillo[1], Maria Garcia Colin[1], Mario Mujica Sanchez[1], Christian Mireles Davalos[1], and Yamil Monitel Molina[1]

[1]Instituto Nacional de Enfermedades Respiratorias
[2]Instituto Nacional de Cancerologia

April 16, 2024

Abstract

Since the beginning of the SARS-CoV-2 pandemic healthcare professionals have found it necessary to generate diagnostic methods for the disease that are easy to use, reliable, and accessible. The Berlin-Charité protocol has been one of the most recommended methods for detecting SARS-CoV-2 from the onset of the pandemic. However, new diagnostic techniques such as GeneXpert have been developed and proven to be efficient, fast, and easy to use to detect infected patients. The purpose of this study, conducted at the National Institute for Respiratory Diseases in Mexico, was to compare the diagnostic performance of the Berlin-Charité protocol and GeneXpert for the detection of SARS-CoV-2, evaluating a cohort of 135 Mexican patients. For statistical analysis, sensitivity, specificity, positive predictive value, negative predictive value, and likelihood ratios for each assay were calculated. The diagnostic parameters for GeneXpert were found to be 100% in both sensitivity and specificity. The Berlin-Charité protocol performance had a sensitivity of 72% and specificity of 100%. With this study, it can be concluded that the diagnosis of SARS-Cov_2 infection through GeneXpert was 29% more specific than the Berlin protocol.

Hosted file

`A comparison between GeneXpert testing and the Berlin VFF.docx` available at https://authorea.com/users/338393/articles/710642-a-comparison-between-genexpert-testing-and-the-berlin-charit%C3%A9-diagnostic-protocol-for-the-detection-of-sars-cov-2-in-a-cohort-of-mexican-patients