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OP 025

**The Performance Of 20-Min Whole Blood Clotting Test in  
Detection of Venom Induced Consumption Coagulopathy from  
Russell's viper (*Daboiarusselii*) Bites**

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**Abstract**

**Objectives:** The 20-min whole blood clotting test (WBCT20) is used as a bedside diagnostic test for coagulopathic snake envenoming. We aim to assess the performance characteristics of the WBCT20 in the diagnosis of venom induced consumption coagulopathy (VICC) in Russell's viper (*Daboiarusselii*) envenoming

**Methods:** Adult patients admitted with suspected or confirmed snake bites were recruited from two hospitals. Age, sex, bite information were collected and a WBCT20 and prothrombin time (PT) tests were performed. The WBCT20 was done by trained clinical research assistants using 1ml of whole blood in a 6.5ml glass tube. The PT was done with citrated platelet poor plasma prepared from blood collected to tubes with 0.109mol/L (3.2%) buffered tri-sodium citrate anticoagulant (Hunan Liuyang Medical Instrument Factory, Hunan, P.R. China) in 1:9 anticoagulant to blood ratio, and the time taken for fibrin clot formation was measured by a semi-automated coagulation system (Helena C-2/ Helena Biosciences Europe, Gateshead, Tyne and Wear, UK) using Thromborel S reagent (Siemens Healthcare Diagnostics, Marburg, Germany). The international normalized ratio (INR) was calculated from the PT according to the recommended coagulometric method provided by the manufacturer. Cases of VICC due to Russell's viper were defined as an INR>1.5. The diagnostic utility of WBCT20 was determined by calculating the sensitivity and specificity of the WBCT20 on admission for cases of VICC due to snake bites.

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**Results:** There were 616 snakebites where both WBCT20 and PT were done on admission samples which included 50 patients (8.1%) with VICC. The WBCT20 was positive in 42/616 patients with VICC and 9/616 with no coagulopathy [sensitivity 84.0% (95% confidence interval (CI): 70.3-92.4%), positive predictive value: 82.4% (95% CI: 68.6-91.1%)]. The WBCT20 was negative in 557/616 snakebites with no coagulopathy and 8/616 with VICC [specificity: 98.4% (95% CI: 96.9-99.2%) and negative predictive value: 98.6% (95% CI: 97.1-99.3%)].

**Conclusions:** Using trained research assistants, the WBCT20 test had a relatively good sensitivity for the detection of VICC, but still missed almost one fifth of cases where antivenom was potentially indicated.

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