

Occurrence of Porcine circovirus Type 2 in Pigs of Eastern Cape Province South Africa

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Abstract : Porcine circovirus type 2 (PCV2) is the major etiological viral agent of porcine multisystemic wasting syndrome (PWMS) and other porcine circovirus-associated diseases (PCVAD) of great economic importance in pig industry globally. In an effort to determine the status of swine herds in the Province as regarding the 'small but powerful' viral pathogen; a total of 375 blood, faecal and nasal swab samples were obtained from seven pig farms (commercial and communal) in Amathole, O.R. Tambo and Chris-Hani District Municipalities of Eastern Cape Province between the year 2015 and 2016. Three hundred and thirty nine (339) samples out of the total sample were subjected to molecular screening using PCV2 specific primers by conventional polymerase chain reaction (PCR). Selected sequences were further analyzed and confirmed through genome sequencing and phylogenetic analyses. The data obtained revealed that 15.93% of the screened samples (54/339) from the swine herds of the studied areas were positive for PCV2; while the severity of occurrence of the viral pathogen as observed at farm level ranges from approximately 5.6% to 60% in the studied farms. The Majority, precisely 15 out of 17 (88%) analyzed sequences were found clustering with other PCV2b reference strains in the phylogenetic analysis. More interestingly, two other sequences obtained were also found clustering within PCV2d genogroup, which is presently another fast-spreading genotype with observable higher virulence in global swine herds. This finding confirmed the presence of this all-important viral pathogen in pigs of the region; which could result in a serious outbreak of PCVAD and huge economic loss at the instances of triggering factors if no appropriate measures are taken to curb its spread effectively.

Keywords : pigs, polymerase chain reaction, porcine circovirus type 2, South Africa

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