

VV451 - DETECTION AND PHYLOGENETIC ANALYSIS OF PORCINE HOKOVIRUS IN PIGLETS WITH POSTWEANING MULTISYSTEMIC WASTING SYNDROME

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Porcine hokovirus (PHoV) is a new virus closely related to human and bovine hokovirus, but there is no data about the presence and prevalence of PHoV in the American continent. PHoV has been detected in pigs with porcine reproductive and respiratory syndrome virus (PRRSV) and may be involved in Postweaning Multisystemic Wasting Syndrome (PMWS) that affects swine industry and presents multiple viral infections. The aim of the present study was to detect and perform a phylogenetic analysis of PHoV in piglets with PMWS. The PCR detection of porcine circovirus type 2 (PCV2) and PHoV were performed in pooled tissues (lymph nodes, lungs, liver, spleen and kidneys) of 30 piglets of each herd displaying PMWS from 8 herds. Also, eight overlapping fragments that cover hypothetical structural protein of PHoV were sequenced. The Bayesian Inference (BI) using MrBayes 3.1.2 was conducted to perform a phylogenetic analysis. Selective pressure was determined by the ratio of non-synonymous to synonymous substitutions (dN/dS) using Nei Gojobori- Jukes Cantor method, Mega 4.0. All the samples were PCR positive for PCV2 and PHoV was 55.3% co-detected in 7 of 8 herds. The kidney, lung, spleen and lymph node samples presented more positives (75%, 62.5%, 57.1% and 50%) than liver samples (28.6%), respectively. Six hypothetical structural protein sequences of PHoV were obtained and compared with PHoV sequences available in Genbank. The phylogenetic tree indicated that the three Brazilian PHoV sequences were closely related to European sequences and three formed distinct clades. The (dN/dS) ratio within PHoV sequences was low (0.05) suggesting that most amino acids residues of hypothetical structural protein have been subjected to purifying selection. These results indicate that piglets displaying PMWS are PCV2 infected and can be co-infected with other virus, as PHoV. Further studies are required to understand the prevalence and commercial importance of PHoV in swine herds. CNPq / Fapergs.