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Faculty of Veterinary Medicine
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Comparative Studies on Pox Disease Virus in Sheep and Goats in Suez Canal Area

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Abstract

This study was designed for isolation, identification and differentiation of Capripoxviruses (sheep pox virus and goat pox virus) by egg inoculation, AGID test, 30 kDa RNA polymerase subunit (RPO30) gene, P32 gene-based polymerase chain reaction (PCR) and real time PCR in clinically affected animals in Suez canal area, then sequencing and comparing strains with national and international SGPV strains recorded in gene bank. The collected samples were 68 skin scabs mixed in 13 pools and 265 serum samples collected from Suez canal area in the period of 2017-2019.

Typical pox lesion were observed in 10/13(76.92%) of pooled samples, while the rest of the sample 3/13 (23.07%) showed no pathological changes on the CAM.

A total 43 out of 265 examined serum samples collected from sheep and goats were recorded positive by AGID test with a total percentage of 16.22%. Sheep pox antibody titer was high in vaccinated than non-vaccinated animals.

Egyptian sheep pox (Ismailia 2019) isolate for RPO30 gene was closely related to other sheep pox viruses in gene bank and shared high identity percentages ranged between 98% and 98.7% indicating that the outbreak was caused by a SPPV. Sheep pox Ismailia 2019 was more distant from goat pox virus and lumpy skin disease virus with identity 93% & 93.7 %.

Egyptian sheep pox (Ismailia 2019) and (Suez 2019) isolate for P32 gene was closely related, shared high identity percentages about 100% with other sheep pox viruses in gene bank indicating that the outbreak was caused by a SPPV. Sheep pox Ismailia/Suez 2019, was also closely related to goat pox virus and lumpy skin disease virus with identity 99.2 % & 100 %.The homology of Partial amino acid sequences of P32 protein between Ismailia 2019 and Suez 2019 strains of Capripoxvirus was 100%. The results showed 11 variable amino acids from the first 87amino acids.

Key words. Sheep and goat pox virus in Suez canal area

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