Haptoglobin, ovostatin, and albumin as possible salivary biomarkers of canine parvovirosis.

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Background: canine parvovirosis (CPV) is a severe disease that caused nearly 100% morbidity and up to 90% mortality in unvaccinated puppies1. The most common clinical signs include acute severe vomiting and diarrhoea, fever, dehydration and lethargy2. An early diagnosis of the CPV is essential to provide an adequate treatment and to prevent death and virus spread3. In this sense, proteomic approaches of non-invasive specimens such as saliva have been widely employed in the search of biomarkers of diagnosis in canine diseases.

Methods: one-dimensional polyacrylamide gel followed by mass spectrometry (MS) was performed in saliva from 14 client owned-dogs. Dogs (9 males and 5 females) ranging from 2 to 10 months old (5 ± 2.3) were divided into three groups: healthy (control group, n=4), and dogs with CPV that survived (survival group, n=6) or perish due to the disease (dead group, n=4).

Results: Three bands that were differentially expressed between the groups were identified as containing haptoglobin, ovostatin and albumin. The bands containing haptoglobin and ovostatin were upregulated and downregulated in both groups with CPV, respectively, when compared to controls. The one containing albumin was upregulated in dead group when compared to control group.

Conclusions: Haptoglobin, ovostatin and albumin in saliva could be suitable biomarkers of diagnosis, assessment of disease severity, and prognosis of canine parvovirosis.

Keywords: saliva, dog, one dimension electrophoresis, biomarkers.