

## INFLUENCE OF PIGEON PARAMYXOVIRUS TYPE-1 ON CLINICOPATHOLOGICAL PROFILES IN RACING PIGEONS ASSOCIATED WITH RECENT OUTBREAKS IN IRAQ

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**Abstract.** The number of racing pigeons recently increased in Iraq accompanied by significant increases in the number of events similar to the neurotrophic velogenic group of ND viruses in different regions. Thus, this research was designed to study the influence of natural infection with PPMV-1 on clinicopathological profiles in four PPMV-1-associated mortality events in racing pigeons in the southern part of Iraq. The result revealed that HI antibody titers above the positivity threshold of four events were seen in (9 out of 24) of tested pigeons in all events, and the predominant signs included polyuria followed by neural symptoms which appear in most of the affected pigeons in the flock. All events showed a high mortality rate (60% - 70%) and absence of gross abnormalities in necropsied pigeons. Kidney showed widespread interstitial hemorrhage and intensive epithelial sloughing of renal tubular epithelium, marked white pulp hyperplasia and marked peri-arteriolar fibrosis with onion skin appearance in the spleen, and marked destruction of the superficial intestinal mucosa and intensive inflammation in the site of tissue destruction. This study demonstrates the role of PPMV-1 on clinicopathological profiles in racing pigeons associated with recent outbreaks in Iraq, polyuria followed by neural symptoms represent the predominant symptoms in the affected pigeons.

**Keywords:** *Paramyxovirus-1, Pigeon, racing, Basra, Iraq.*

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### 1. Introduction

Pigeon paramyxovirus serotype 1 (PPMV-1) is a variant of the Newcastle disease virus (NDV) belonging to the class II genotype VI of the serogroup 1 of the genus Avulavirus, and family Paramyxoviridae (Alexander & Senne, 2008; Miller *et al.*, 2010; Briand *et al.*, 2012). Historically 3 panzootic of Newcastle Disease have been recorded in the last eighty years. The first panzootic was identified in Indonesia and England during the mid-1920s (Briand *et al.*, 2012), while the second was recognized during the late 1960s in Europe but was thought to have originated in Asia. The third one involves a pigeon-adapted variant of avian (APMV- 1), which emerged first during the late

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