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**Szkoła Główna Gospodarstwa Wiejskiego
w Warszawie**

Instytut Medycyny Weterynaryjnej

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**Zakażenia rotawirusowe
u gołębi domowych
(*Columba livia domestica*, Linnaeus, 1758)
w Polsce**

Rotavirus infections in domestic pigeons
(*Columba livia domestica*, Linnaeus, 1758) in Poland

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Summary

Rotavirus infections in domestic pigeons (*Columba livia domestica*, Linnaeus, 1758) in Poland

Pigeon rotavirus A is now recognized as the etiological factor of Young Pigeon Disease (YPD), which causes significant losses in pigeon breeding, particularly among racing pigeons. Although rotaviruses were detected in pigeons as early as the 1980s, their role as the cause of YPD was confirmed in 2016 in Australia. In the first part of the study, the first recognized cases of rotavirus infection in pigeons in Poland from 2017 and 2018 were analyzed. Post-mortem examinations, histopathological, and molecular studies were conducted to confirm the infection. Subsequently, archival liver samples collected during post-mortem examinations of pigeons between 2011 and 2020 were screened by molecular method. The samples were from 117 pigeons from 74 lofts. Rotavirus A (RVA) genetic material was detected in 24 samples (20.5%), with the first positive sample dating back to 2014. Further research aimed to trace the spread of RVA infections during young racing pigeon flights in one of the districts of Warsaw Division of the Polish Pigeon Racing Association (PZHGP). The analysis of faecal-urine samples collected from transport baskets showed that the number of RVA infections increased until the fourth flight ($p=0,049$), after which it significantly decreased by sixth flight ($p=0,001$), suggesting the development of immunity in the birds. Among the 76 lofts from which birds participated in the flights, at least one positive result was obtained from pigeons from 46 (60.5%) lofts, and 11 breeders (14.4%) reported clinical signs of the disease in young pigeons, such as vomiting, diarrhea, and crop stasis which appeared 1-7 days after the flight. The results confirm that key factor in the development of RVA infection during the racing season is contact with infected birds. The studied pigeons were not vaccinated against RVA. Rotavirus infections pose a serious challenge for breeders and veterinarians, especially in the context of training, flights, and pigeon shows, where infections are most likely to occur in birds under stress. Monitoring infections using RT-qPCR tests has proven effective in diagnosing both clinical and subclinical infections in racing pigeons.

Key words: young pigeon disease, pigeon type-rotavirus A (RVA), pigeon viral diseases