

Avian Influenza Virus-H5N1 Is Circulating Among Backyard Chicken in Marga District, Tabanan Regency, Bali

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INTRODUCTION

Avian Influenza or bird flu is an infectious pandemic disease (Horimoto and Kawaoka, 2001). AI viruses can cause high mortality in poultry and infect humans in Indonesia (Daniels et al., 2013). Pet and backyard animals can be infected with the HPAI-H5N1 virus (Mahardika et al., 2018). Monitoring of the virus needs to be done so that the Avian Influenza outbreak cases are not occurred. Isolation of AI virus can be done on 9-day-old hatched chicken eggs injected through the allantois' space. The virus can be tested by hemagglutination (HA/HI) and Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) tests (FAO, 2014).

MATERIALS AND METHODS

A total of 288 unvaccinated domestic chickens were used as research samples. Samples of cloaca and trachea swabs from unvaccinated domestic chickens were taken randomly from 8 villages. The virus was isolated in 9-day-old of eggs embryonated through the allantoic cavity and incubated at 37°C for 2-3 days. The allantoic liquid was harvested and tested for the presence of AIV-H5N1 using hemagglutination test and molecular with RT-PCR of H5N1 and H9N2 primers.

RESULT AND DISCUSSION

The summary of virus isolation of AIV-H5N1 from domestic chickens in all Margasubdistricts of Tabanan presented in Table 1. The results confirmed that HPAI/H5N1 was isolated in five samples, while AI H9N2 subtypes were negative. AI-H5N1 virus has been found in several species including mammals and birds in Bali (Mahardika, et al., 2018). Monitoring of AI viruses needs to be continued because it can infect humans (Horimoto, and Kawaoka., 2001). The results indicate that AI-H5N1 virus may be still circulating in domestic chickens in Marga Subdistrict. These results show that domestic chickens have the opportunity to be transmitted by

the AI-H5N1 virus. Therefore, the surveillance should be regularly done in these areas and other villages in Bali to prevent the outbreak of the disease.

Table 1. Summary of virus isolation in domestic chickens, in Marga, Tabanan

Isolate	Origin	Virus titers (HA Log ₂)	RT-PCR	
			H5N1	H9N2
P53.1	Marga	1	+	-
P56.1	Marga	2	+	-
P65.1	Marga	4	+	-
P67.2	Marga	4	+	-
P69.2	Marga	2	+	-
P70.2	Marga	2	-	-
P74.1	Marga	1	-	-

CONCLUSION

The virus Avian Influenza subtype H5N1 is still circulating among backyard chicken in the District of Marga, Tabanan. The research should be stretched to villages in Bali.

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