

# Lymphocyte - Neutrophil Ratio On Recent Cases of Bird Flu infection in Thailand and Vietnam

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## Citation

V Wiwanitkit. *Lymphocyte - Neutrophil Ratio On Recent Cases of Bird Flu infection in Thailand and Vietnam*. The Internet Journal of Infectious Diseases. 2004 Volume 4 Number 2.

## Abstract

Bird flu or avian flu, caused by the H5N1 virus, is an emerging infectious disease. There has been worldwide situation regarding avian influenza infections in poultry since 1997. It is noted that this H5N1 virus jumped the species barrier and caused severe diseases with high mortality in humans in Vietnam and Thailand. Most infected cases usually developed progressive pneumonia with acute respiratory distress syndrome and consequently died. The immunohematological aspect of this viral infection has not been well documented. Here, the author performed this mini-study in order to document the impact of bird flu infection on level of lymphocyte – neutrophil ratio among reported Thai and Vietnamese patients. A literature review regarding human bird flu in Thailand and Vietnam was performed using the database of published work cited in Index Medicus and the Science Citation Index, and also published work from 256 local Thai journals, which are not included in the international citation index. Reports with lack of complete data were excluded from further analysis.

According to this review, there were 7 reports [1,2,3,4,5,6, 7] covering 22 Thai and Vietnamese patients with a firm diagnosis of bird flu. The reported lymphocyte – neutrophil ratios ranged from 1:11.5 to 1:0.34 with an average value equals to  $1:1.52 \pm 1:1.56$  (median = 1:2.2). Of interest, the reported ratios varied, implying variability in cellular response to infection. Generally, viral infection usually induced increased lymphocyte – neutrophil ratios. However, some viral infections such as human immunodeficiency

virus (HIV) directly attack the lymphocytes and cause decreased lymphocyte – neutrophil ratios. Concerning the average and mean of reported lymphocyte – neutrophil ratios in bird flu cases, the trend of normal to increased ratio can be seen.

## CORRESPONDENCE TO

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## References

1. Grose C, Chokeyphaibulkit K. Avian influenza virus infection of children in Vietnam and Thailand. *Pediatr Infect Dis J* 2004;23:793-4.
2. Chotpitayasunondh T, Lochindarat S, Srisan P. Cases of Influenza A (H5N1) - Thailand, 2004. *W Epidemiol Surveil Rep* 2004;5:100-103.
3. Chotpitayasunondh T, Lochindarat S, Srisan P. Preliminary clinical description of influenza A (H5N1) in Thailand. *W Epidemiol Surveil Rep* 2004; 35: 89-92.
4. Chokeyphaibulkit K, Uiprasertkul M, Puthavathana P, Chearskul P, Auewarakul P, Dowell SF, Vanprapar N. A child with avian influenza A (H5N1) infection. *Pediatr Infect Dis J* 2005;24:162-6.
5. Centers for Disease Control and Prevention (CDC). Cases of influenza A (H5N1)--Thailand, 2004. *MMWR Morb Mortal Wkly Rep* 2004;53:100-3.
6. Apisarnthanarak D. FIC Article Center, Atypical avian influenza (H5N1). Available at <http://www.flu.org.cn>
7. Tran TH, Nguyen TL, Nguyen TD, Luong TS, Pham PM, Nguyen VC, et al. Avian influenza A (H5N1) in 10 patients in Vietnam. *N Engl J Med* 2004 18;350:1179-88.
8. To KF, Chan PK, Chan KF, Lee WK, Lam WY, Wong KF, Tang NL, Tsang DN, Sung RY, Buckley TA, Tam JS, Cheng AF. Pathology of fatal human infection associated with avian influenza A H5N1 virus. *J Med Virol* 2001;63:242-6.

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