New Estimates of CMV Seroprevalence in Malaysia. Where Do We Go From Here?

S N Camalxaman, (PhD Student)*,, N A Zeenathul, (PhD)*, Y W Quah, (MSc Student)*, H Zuridah, (PhD)**, H S Loh, (PhD)*****

*Department of Veterinary Pathology and Microbiology, Faculty of Veterinary Medicine, Universiti Putra Malaysia, Malaysia, **Department of Medical Laboratory Technology, Faculty of Health Sciences, Universiti Teknologi MARA (UiTM), Malaysia, ***School of Biosciences, University of Nottingham Malaysia Campus, Malaysia

Sir,

The vast consequences associated with cytomegalovirus (CMV) infection poses an important public health problem and confers economic burden to society. Yet, despite its recognized importance and improvements in the present era of preemptive therapy, complete prevention of CMV continues to be challenging. Screening donated blood for CMV is neither customary nor mandatory, increasing the potential risks of transfusion transmission of CMV (TT-CMV)[1].

In a preliminary blinded study, the seroprevalence of CMV in the Malaysian states of Selangor and Wilayah Persekutuan were evaluated with the objective of creating awareness for its prevention. A total of 79 residual blood samples from healthy volunteer subjects were collected from a blood collection unit that would otherwise have been discarded. Samples were salvaged and given to the investigators without other identifying information. Sera were screened for CMV antibodies. The results showed 92% seroprevalence. Equally high seroprevalence rates have been documented amongst transfused thalassemic patients[2] and regular blood donors[3] in other Malaysian states. Our findings therefore, are in accordance to previous studies and provide supplementary evidence that CMV is omnipresent, widespread and relevant. Further in depth study with larger sample size and additional discriminatory factors is much needed to discriminate findings based on gender, age or socioeconomic background. Theoretically, TT-CMV can be abrogated by screening all blood donors for CMV and transfusing at-risk patients exclusively with seronegative units, though such option could be expensive, impractical and unjustifiable. In addition, the capacity to provide CMV seronegative blood components will be insufficient to meet the high demands of blood transfusion. With this in mind, alternative preventive strategies should be pursued. CMV seronegative blood donors ought to be identified, educated on how to maintain their seronegative status and encouraged to become constant donors. Furthermore, in view of the fact that monocytes latently infected with CMV represent the primary vector for TT-CMV, provision of leucoreduced blood products as opposed to generalized screening would be a more rational and effective alternative option to avert the spread of this virus[4].

We conclude that while CMV infection is endemic, the emphasis to circumvent the viral infection should ideally be on long term preventive strategies. Ongoing synergistic efforts between researchers, health planners and care providers are pivotal to circumvent the widespread transmission of this virus into the population. Moreover, prospective seroepidemiology surveys of CMV on a national scale would be justifiable and indispensable in providing invaluable information to enlighten future vaccination strategies.

ACKNOWLEDGEMENTS

The authors would like to thank and acknowledge the Ministry of Higher Education (MOHE), Malaysia for providing financial support under the Fundamental Research Grant Scheme (03-10-07-337FR). In addition, we thank Universiti Putra Malaysia (UPM) for providing the research environment and necessary facilities.

REFERENCES

1. Roback JD. CMV and blood transfusions. Rev Med Virol 2002; 12: 211-19.
2. Jamal R, Fadzillah G, Zulkifli SZ, Yasmin M. Seroprevalence of Hepatitis B, Hepatitis C, HCMV and HIV in multiply transfused thalassemia patients: results from a thalassemia day care center in Malaysia. Southeast Asian J Trop Med Public Health 1998; 29: 792-94.
3. Ahmed SA, Al-Joudi FS, Zaidah AW, Roshan TM, Rapiaah M, Abdullah YM, Rosline H. The prevalence of human cytomegalovirus seropositivity among blood donors at the unit of blood transfusion medicine, Hospital Universiti Sains Malaysia. Southeast Asian J Trop Med Public Health 2006; 37(2): 294-6.
4. Bowden RA, Slichter SJ, Sayers M, Weisdorf D, Cays M, Schoch G, Banaji M, Haake R, Welk K, Fisher L, McCullough J, Miller W. A comparison of filtered leukocyte-reduced and cytomegalovirus (CMV) seronegative blood products for the prevention of transfusion associated CMV infection after marrow transplant. Blood 1995; 86(9): 3598-603.

This article was accepted: 8 March 2012
Corresponding Author: Nazariah Allaudin Zeenathul, Department of Veterinary Pathology and Microbiology, Faculty of Veterinary Medicine, Universiti Putra Malaysia, Malaysia