Am. J. Trop. Med. Hyg., 74(5), 2006, p. 705

LETTERS TO THE EDITOR

Dear Sir:

In a recent issue of *the American Journal of Tropical Medicine and Hygiene*, Drs. Ali and Kadaru[1] proposed adding sulfadoxine-pyrimethamine (SP) as an anti-malaria preventative to donated blood to prevent transfusion-associated malaria. This practice is against the worldwide prescribed practice of blood donation. The AABB standards for blood banks and transfusion services[2] stated that "with the exception of 0.9% sodium chloride (USP), drugs or medications shall not be added to blood or components unless one of the following conditions is met: 1) they have been approved for this use by the Food and Drug Administration (FDA); 2) there is documentation available to show that the addition is safe and does not adversely affect the blood or component." This study does not show that SP is either approved for addition to donated blood or that it is safe to give it mixed with blood. Previously, the malaria parasite has shown the development of drug resistance against SP.[3] Use of SP in every unit of blood donation in the malaria endemic areas will spread this resistance. Better screening tests may be the best solution to prevent transfusion-associated malaria infection by the same group.[4]

REFERENCES

1. Ali MSM, Kadaru AGMY, 2005. In vitro processing for donor blood with sulfadoxine-pyrimethamine for eradication of transfusion-induced malaria. *Am J Trop Med Hyg 73:* 1119–1123.
2. AABB Standards for Blood and Transfusion Services, 2004. *Addition of Drugs and Solutions: 5.19.10.* Bethesda, MD; AABB.
3. Wongsrichanalai C, Pickard AL, Wernsdorger WH, Meshnick SR, 2002. Epidemiology of drug resistance malaria. *Lancet Infect Dis 2:* 209–218.
4. Ali MS, Yousif AG, Moustafa MS, Ibrahim MH, 2005. Evaluation of malaria parasite screening procedures among Sudanese blood donors. *Clin Lab Sci 18:* 69–73.

FOUAD BOCTOR, MD, PHD
Department of Pathology
University of Alabama at Birmingham
Birmingham, AL 35249-6943
E-mail: fboctor@path.uab.edu

Dear Sir,

Dr. Boctor disagrees with our paper in which we suggested that it might be useful to add sulfadoxine/pyrimethamine (S/P) to donated blood to prevent transfusion-associated malaria. His reasons are that 1) the U.S. Food and Drug Administration (FDA) does not approve of this practice and 2) documentation must show that the additive must be safe and does not adversely affect the blood or components. In regions where malaria is endemic and asymptomatic parasitemia is common, transfusion-associated malaria is a significant health risk. We do not believe that the U.S. FDA should be the arbiter of medical practice in our region, so we disagree with Dr. Boctor about his first point. Concerning the second point, we confirmed the compatibility between S/P and all components of the stored blood because we found no obvious changes in drug-treated blood samples compared with controls.[1] Particularly, we showed in our paper that S/P did not significantly affect the viability of erythrocytes, which was tested by osmotic fragility, as well as a determination of packed cell volume (PCV) and percent lysis. Thus, the results of these tests were within the reference range. Also, our experiment detected an insignificant association between drug concentration and the number of platelets as well as leukocytes. Moreover, plasma coagulation factors and sodium and potassium levels of the processed blood samples were not affected by the applied drug. This is obvious in the normal results obtained for the prothrombin time, activated partial thromboplastin time, and serum electrolytes. According to our knowledge, S/P dose not adversely interact with the constituents of blood bags (CPDA-1).[2,3] Screening of prospective blood donors could also minimize, although never eliminate, the transmission of malaria through blood transfusions,[4,5] even by using more recently advanced techniques.[6]

Resistance of malaria parasites to anti-malarials is a constantly changing situation. This study is a model for testing other types of anti-malarial drugs to be used according to local malaria parasite drug-resistant patterns as well as sensitivity of recipients to S/P. However, future clinical trials need to be conducted to validate this practice.

REFERENCES

1. Ali MSM, Kadaru AGMY, 2005. In vitro processing of donor blood with sulfadoxine-pyrimethamine for eradication of transfusion-induced malaria. *Am J Trop Med Hyg 73:* 1119–1123.
2. The Official Compendia of Standards, 2004. *United States Pharmacopeial Convention.* The United States Pharmacopeia, 159.
3. Wade A, Weller Paul J, 1994. *Handbook of Pharmaceutical Excipients.* 2nd ed. Washington, DC: American Pharmaceutical Association.
4. Mollison PL, Engelfriet CP, Contreras M, 1994. *Blood Transfusion in Clinical Medicine, Infectious Agents Transmitted by Transfusion.* 9th ed. Oxford, UK: Blackwell, 779.
5. Bruce Chwatt LJ, 1972. Blood transfusion and tropical disease. *Trop Dis Bull 69:* 825–862.
6. Ali MS, Yousif AG, Moustafa MS, Ibrahim MH, 2005. Evaluation of malaria parasite screening procedures among Sudanese blood donors. *Clin Lab Sci 18:* 69–73.

MOHAMED SIDDIG M. ALI, PHD
Faculty of Medical Laboratory Sciences
Al Neelain University
Khartoum, Sudan
E-mail: mohdaru@hotmail.com