Letter to the Editor

HIV Testing In Low Prevalence Populations

Madam, Dr. Essa Abdulla's letter in the March 2005 issue of JPMA rightly highlights the pitfalls of HIV testing in a low prevalence country. While he is correct in postulating an autoimmune explanation for the false positive test, a simpler explanation would be to invoke the Bayes' theorem.

The sensitivity of HIV antibody detection by ELISA is 93-99% and the specificity 99%[1], giving a likelihood ratio[2] of the positive test of 99. Considering the estimated 80,000 cases nationally[3], the overall prevalence for Pakistan is 0.05%. This will be the pretest probability when testing someone from the general population, such as the lady being screened during antenatal care. Given a pretest probability of 0.05, the post test probability of such a test would be about 5%. This means that among such population a positive test would be correct (true positive) only 5% of the time.

Hence the need to test members of the general population in a low prevalence country must involve a consideration of potential benefits against harms. My recommen-dation is for the ordering physician to carefully discuss the need and implications of the positive and negative tests with patients prior to ordering the test. This counseling should also include a mention of the need for confirmatory testing such as the Western Blot. That would be good scientific and clinical practice.

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References

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2. The Interpretation of Diagnostic Data (chapter 4). In: David L. Sackett, R. Brian Haynes, Peter Tugwell, Gordon H.Guyatt, eds. 2nd ed. Little, Brown and Company Boston 1991, pp. 69-152.

3. Table on country specific HIV/AIDS estimates and data, end 2003. In: 2004 Report on the Global AIDS epidemic. UNAIDS 2004, p. 189.