Since the introduction several years ago of indirect immunofluorescent antibody test
the field of diagnosis of parasitic diseases has been in a rapid and constant evolution, specially
because of the realization of the amount of money that could be made in patenting new technologies
and marketing kits for the rapid and specific diagnosis of viral, bacterial, fungal and parasitic
infections. A giant advance was made with the development of radioisotopic assays followed
almost immediately by the development of the enzyme immunoassays and by the development of
monoclonal antibodies. This latter development revolutionized the field of immunodiagnosis by
opening new ways to the development and commercialization of a wide variety of very effective
diagnostic tests (1). There was, however, almost no time to really understand the exquisite
sensitivity and specificity of assays based on monoclonal antibodies and to completely realize their
potential since the exploding field of molecular biology burst into the scene with technologies and
possibilities beyond the immagination. Molecular biology has provided spectacular advances in
developing new methods for the identification of infectious agents and vectors. These methods
explore the genomic core of the organism and often supplant traditional technologies because of
their rapidity, ease of use, accuracy and, sometimes, extremely exquisite sensitivity. DNA probes
are now all over. More importantly, they are moving out of the diagnostic laboratory and becoming
available to epidemiologists for use in the field (2). The sensitivity of the DNA probes may be
impaired by the quantity of parasite DNA in the samples. However, a new technology, the
polymerase chain reaction (PCR) (3), has been developed to permit the use of extremely small
quantities of DNA. In PCR, sequences of DNA are amplified over a million of times in a short
period of time. This technique allows the use of non-radioisotopic detection systems and has
already been employed to demonstrate human immunodeficiency virus and human papilloma virus
(4).

One of the problems with all the new technology for diagnosis of parasitic
diseases, particularly those based on expensive molecular biology procedures is cost to the patient
and to the institution providing the technique. Parasitic diseases are unfortunately much more
prevalent in poor third world countries where patients are unable to pay for any health care. The
main health care provider is usually the government which is almost always with very limited
economic resources. Thus, a careful analysis of cost effectiveness and impact on health care is
essential before any significant technological change is made in the diagnosis laboratory. In this
time of economic restraint for most if not all third world countries it is impossible to introduce new
techniques and assays because they are fancy and nifty. Most often, technology which provides
cost savings is accepted without question, but new tests which require substantial expenses for
equipment and reagents require exhaustive analysis of cost effectiveness and health care benefit.

It is fortunate that this symposium is being realized here in Caxambu during the
Chagas' disease and Protozoology meetings. We will hear presentations describing research being
conducted at the forefront of the field of diagnosis of parasitic diseases usually in laboratories with exceptional resources. Most of the listeners, however, work under more limited conditions and may better evaluate the impact of the new technologies described in this symposium in terms of cost and usefulness for improvement of the health care of the general population. The input of these listeners will be extremely useful.

References: