

Swiss Society for Infectious Diseases (SSI)/ISID Infectious Diseases Research Fellowship Program Final Report

by *Andres Pascual, MD* • *Fundacion Centro de Estudios Infectologicos* • *Buenos Aires* • *Argentina*

Development and validation of new laboratory methods for the measurement of blood levels of antimicrobial agents.

My Fellowship program jointly sponsored by the Swiss Society for Infectious Diseases (SSI) and the International Society for Infectious Diseases (ISID) was conducted in the Laboratory of the Infectious Diseases Service at the University Hospital in Lausanne, Switzerland under the direction of Dr. Oscar Marchetti and Prof. Thierry Calandra.

As a first research project, I developed a rapid HPLC method (simplified extraction from plasma and short analytical procedure) and a bioassay with extended analytical range (using an azole-hypersusceptible *C. albicans* mutant lacking multidrug-efflux transporters and calcineurin) for measurement of voriconazole blood levels. An abstract has been submitted to an international congress in 2004, and the manuscript is in the review process. As a second project, I developed a bioassay for the measurement of caspofungin blood levels using a *C. albicans* mutant with decreased resistance to cell wall stress. The manuscript is in preparation.

The SSI/ISID Fellowship continues with a clinical research project on pharmacokinetics/-dynamics of antifungal agents in patients with invasive mycoses. The objective of this study is to assess the utility of monitoring antifungals blood levels in critically ill patients, in whom drugs pharmacokinetics/-dynamics may be profoundly altered. Further, I am involved in the hospital's therapeutic drug monitoring program of antimicrobial agents, in clinical research projects in neutropenic cancer patients, and in clinical training in infectious diseases.

This Fellowship has been very important for my professional development. The acquisition of new scientific and clinical competences, and of theoretical/technical skills for the measurement and interpretation of blood levels of antimicrobial agents will open new career perspectives in my country.

Yours sincerely,

Andres Pascual, MD.

Working under the direction of Oscar Marchetti, MD, Thierry Calandra, MD, PhD and Patrick Francioli, MD.



Andres Pascual, MD



Dr. Andres Pascual received his medical degree from the School of Medicine, National University of Cuyo in Mendoza, Argentina. He completed his residency in pediatrics at the National Hospital "Prof. Alejandro Posadas" in Buenos Aires, and a post-residency fellowship in infectious diseases at the Fundacion del Centro de Estudios Infectologicos (FUNCEI) in Buenos Aires.