

Laudatio for Professor Mirjam Christ-Crain Laureate of the National Latsis Prize 2009

by Professor Stephanie Clarke
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Mirjam Christ-Crain, SNF Professor at the University Hospital in Basel, is the recipient of the 2009 National Latsis Prize for her outstanding work on the prognostic value of biomarkers in pneumonia and stroke. Combining very successfully basic and clinical approaches, Mirjam Christ-Crain addressed highly relevant issues in patient care.

Pulmonary infections are often treated with antibiotics, although there is not always evidence that the infection is of bacterial origin. Mirjam Christ-Crain built on a previous observation that severe bacterial, but not viral infections are accompanied with an elevated serum concentration of procalcitonin, a precursor of calcitonin. With her team she developed a therapeutic strategy, based on the determination of procalcitonin levels, and assessed its efficacy. According to this strategy, a patient with low levels of procalcitonin is unlikely to have a bacterial infection and should not be treated by antibiotics. The group carried out several successful clinical trials and published the results in the leading journals of the field. The latest publication, a large multicentre, randomized controlled trial in the emergency departments of 6 large Swiss hospitals, included over 1300 patients; it has demonstrated that a strategy based on the procalcitonin levels allows to identify patients with bacterial versus viral infections, to give to each group the appropriate treatment without increasing the risks of complications.

Critical illnesses, such as sepsis, are accompanied with an increased level of circulating stress hormones. Mirjam Christ-Crain and her collaborators investigated this relationship in two other situations. In a study with over 300 patients with pneumonia they demonstrated that the levels of the stress hormone cortisol are predictive of the severity and the outcome; higher levels of cortisol, which reflects a higher degree of stress, were associated with a poorer outcome of the illness. In another study with

over 350 patients with stroke they measured copeptin, which is a fragment of a stress hormone precursor. Patients who presented higher levels of copeptin on arrival at the hospital tended to have a less favourable outcome.

Mirjam Christ-Crain studied medicine in Basel and obtained the medical diploma in 1999 and the degree of doctor of medicine in 2000. She then specialised in endocrinology and obtained the FMH title in 2006. From 2005 to 2007 she has been a research fellow and PhD student at St. Bartholomew's Hospital in London, where she then obtained a PhD in 2008. She habilitated in 2007 in Basel and became *Oberärztin* at the Division of Endocrinology, Diabetes and Nutrition at the University Hospital. In 2009 she received the SNF professorship and became *leitende Ärztin* of the same Division. During her postgraduate training Mirjam Christ-Crain received numerous awards and prizes within the field of infectious diseases and endocrinology. She is the author of over 60 original studies which were published in peer-reviewed international journals, often with a high impact. She published also many influential reviews.

An outstanding clinician and scientist, Mirjam Christ-Crain is also a much appreciated mentor, and several of her students received fellowships to pursue their research career.

Today we are honouring a young colleague of great accomplishment. The National Latsis Prize 2009 is awarded to a highly motivated and enthusiastic scientist and clinician who has an outstanding track record in her field and whose ongoing work fashions the current clinical practice. With my colleagues I offer you my warmest congratulations and heartfelt wishes for the continuation of your career.

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