Editorial

Otmar Pachinger

Published online: 15 November 2014
 © Springer-Verlag Wien 2014

Medical errors are the eighth leading cause of death in the USA and are estimated to account for approximately 100,000 deaths/year. There are 450,000 preventable medication-related adverse events/year in the USA, costing \$ 3.5 billion. Medication errors include adverse drug reactions related to inappropriately prescribed or administered drugs (Michaels *et al.*, *Circulation* 121:1664, 2010). Thus, medication errors affecting the management of patients with acute cardiovascular disease continue to be a common and costly problem.

The vitamin K antagonists are a superb example of potential medication errors: although highly effective to reduce the incidence of ischemic stroke in patients with nonvalvular atrial fibrillation, they cause bleeding and have a number of practical limitations. The introduction of novel oral anticoagulants in 2009 has been rightly heralded as a major therapeutic breakthrough. In a meta-analysis of the four atrial fibrillation (AF) trials comparing warfarin with new oral coagulants (NOACs), a >50 % reduction in intracranial bleeding and a 10 % reduction in mortality were reported (*Lancet* 383:955, 2014).

In this issue, Weidinger *et al.* address in a state-of-the-art article the challenging question for the cardiologist, how to use NOACs and do no harm. This Austrian survey reflects the regional implementation of international guidelines.

Prof. John Camm, who chaired the European Society of Cardiology (ESC) guidelines for the Management of Atrial Fibrillation, stated in a recent interview in the *European Heart Journal* (35:1825, 2014):

“NOACs are undoubtedly better than warfarin in reducing intracranial hemorrhage and stroke with about a 50 % relative reduction, but it's worth noting that the absolute risk reduction is small.”

There are many open questions, such as patients with severe kidney disease, noncompliance, specific side effects of every NOAC, and management of bleedings. The specific antidotes in development will provide reassurance to physicians, and additionally, education to overcome the fear of bleeding as a barrier to appropriate anticoagulant use is important! It is clear that the development of NOACs is by no means finished, and we will expect a lot of progress.

To reduce the incidence of medication error and its impact, it is critical to integrate the whole healthcare team in the emergency department, intensive care unit, catheterization laboratories, operating rooms, and inpatient wards. The doctors need to improve and standardize error detection rates and implement safer methods to prescribe, dispense, and track medications.

Otmar Pachinger
 Editor Cardiology

Conflict of interest

The author declares that there is no conflict of interest.

O. Pachinger, MD, FESC, FAHA, FICA (✉)
 Professor Emeritus, Department of Cardiology,
 Medical University of Innsbruck,
 Anichstraße 35,
 6020 Innsbruck, Austria
 e-mail: o.pachinger@i-med.ac.at