

2017 THROMBOSIS RESEARCH AWARD GOES TO RESEARCHER FROM BASEL

Protection against a second stroke

In recent years, doctors treating stroke patients have been able to take advantage of a new class of drug product called NOACs (non vitamin K antagonist oral anticoagulants or novel oral anticoagulants). But some important questions relating to the use of these innovative substances remain unclarified in clinical practice. Working together with colleagues, Dr. David Seiffge from Basel University Hospital investigated the potential applications of NOACs. In recognition of his work, he has now received the 2017 Thrombosis Research Award from the Bayer Science & Education Foundation



Prize-winning stroke research: member of the Bayer Board Kemal Malik (left) presents the Thrombosis Research Award 2017 from the Bayer Science & Education Foundation to neurologist Dr. David Seiffge.

Doctors generally face very difficult questions when they are treating stroke patients. For example, at what timepoint they can start using anticoagulant medication? "Particularly in patients who have just had a stroke and also suffer from atrial fibrillation, a common heart rhythm disorder, this issue is currently still unclear. Anticoagulant treatment is frequently withheld from these patients or only given later because doctors are concerned about the elevated risk of cerebral bleeding," explains Dr. David Seiffge, a neurologist at Basel University Hospital.

Most strokes are triggered by blood clots that form in the heart and then migrate to the brain where they block a blood vessel. Many patients then suffer a second stroke shortly

afterwards, in many cases with serious consequences. Doctors can effectively prevent the formation of blood clots in the heart by administering anticoagulants, which significantly reduce the risk of another stroke. For many years, doctors have used drug products such as Marcumar for this, which contain what are termed vitamin K antagonists as their active ingredients. "However, these drugs are problematic to use. For example, doctors have to monitor the blood of their patients at regular intervals to minimize the risk of cerebral hemorrhage," reports Seiffge.

For the past five years or so, there has been an alternative: novel, non vitamin K antagonist oral anticoagulants, or NOACs for short, one of which is Bayer's rivaroxaban, the active ingre-

dient in the drug product Xarelto™. "They are significantly simpler to take and the patients are equally well protected against stroke. And the risk of cerebral hemorrhage in particular is lower," says Seiffge.

Patients with atrial fibrillation who have recently had a stroke have a particularly high risk of suffering another stroke. But in the studies conducted so far, these patients did not receive the new drug products until several weeks later. Seiffge and his colleagues investigated whether these patients could be given NOACs at an earlier stage. In 2016, the researchers reported in the specialist journal *Neurology* that patients can be administered NOACs after just five days and are then protected against a second stroke without incurring an elevated risk of cerebral hemorrhage.

Anticoagulants like NOACs reduce the risk of stroke by approximately 70 percent, but unfortunately they cannot prevent strokes in all cases. In a second study, Seiffge and his team studied the extent to which patients who have already had a stroke despite preventive administration of NOACs can nonetheless be given emergency treatment to dissolve blood clots in the brain. At present, patients taking NOACs are excluded from this important treatment. The study published in the specialist journal *Circulation* indicated that these patients do not have an elevated risk of cerebral hemorrhage and that they are therefore eligible for emergency treatment.

Seiffge's findings convinced the jury of the Thrombosis Research Award, which is being presented for the third time by the Bayer Science & Education Foundation in 2017. He and his colleagues intend to use the prize money of EUR 30,000 to address other issues from daily clinical life – such as the extent to which the NOAC level in blood plasma can serve as an indicator for which therapeutic option is best. ■