

Analysis of Apixaban drug level monitoring in hemodialysis patients to improve dose finding and safety of use

Patients who require special protection against thrombosis and stroke can be treated with Marcoumar®, a drug that inhibits blood clotting. Therapy with Marcoumar® however requires frequent blood checks and adjustment between too little effect (risk of thrombosis) and too much effect (risk of bleeding) is often difficult. In addition, the drug has been associated with an increased risk of calcifications in recent years.

New oral anticoagulants (so-called factor Xa inhibitors e.g. Xarelto®, Lixiana® or Eliquis®) have greatly facilitated treatment, with at least equivalent effect to Marcoumar®, but without the challenges of repeated blood controls and effect fluctuations.

However, in impaired renal function, Xa inhibitors are problematic because reduced excretion can cause drug accumulation. This means, the drug accumulates in the body, significantly increasing the risk of bleeding over time.

A representative of the Xa inhibitors, Apixaban (Eliquis®), is largely not excreted by the kidneys, has no active metabolites and is partially removed by dialysis treatment. For this reason, Apixaban is increasingly being used at low doses in hemodialysis patients.

However, it is still unclear whether, or at what dose or duration of use, Apixaban will still be accumulating in hemodialysis patients. It is also unclear which patient and dialysis treatment factors relevantly influence Apixaban blood concentrations.

At our dialysis center, we have been measuring Apixaban level (or anti-Xa activity) in hemodialysis patients for several years. We would like to analyze the results in more detail to better understand which patients benefit from which dose and in which patients there is a risk of accumulation. To date, there have been only very few studies on this topic, so our analysis will be the largest study published to date.

The aim of the study is to contribute to a simpler and safer use of Apixaban (Eliquis®) in dialysis patients.