Anticoagulation and patient cooperation go hand in hand
The journey to 70% TTR – How do we get there?

After a warm welcome introduction from Christian Schaefer, ISMAAP, Geneva, and Hermann Krüttner, MD, Salzburg, Austria, Mr Schaefer introduced this year’s topic, How to improve the TTR over 70%? And how do we get there? The starting point being the known fact that the intake of Vitamin-K-Antagonists must be monitored frequently in order to maintain the therapeutic time in range (TTR) and that the analysis of patients performing PST and who test frequently (weekly) have a higher rate of TTR. Having in mind that quality of life and time within therapeutic range can be influenced positively through self-management. “Patients need clear and simple information tailor made to their personality” (G. Lip et al).

Why a high TTR is important?
The plenary sessions were opened by Torben Bjerregaard Larsen, MD, Aalborg, Denmark, who talked about High quality anticoagulation management vs new anticoagulants and why high TTR is important.

Dr Bjerregaard highlighted the importance of TTR illustrated by the odd ratio for ischemic stroke and intracranial bleeding in relation with the INR and narrow therapeutic index in AF patients (data from E. Hylek at al).

Above the 3.0 upper limit, the odd ratio for the two conditions differ stressing the importance of knowing, understanding and using the TTR.

He then showed the strong correlation between TTR and survival of post atrial-fibrillation stroke for moderate or high risk patient under Warfarin treatment with a much better survival for the patient with TTR > 70% compared to patient at lower TTR (Li et al. Thrombosis research, 2009, 124 (1) 37-41). Note: The older patients need less Warfarin they need to keep the INR between 2.0 and 3.0 (The Lancet Volume 376, Issue 9745,2010,975 – 983). In terms of quality, the “Quality of time in TTR” was presented as < 50% bad quality, > 65% best practice in RCT, > 80% optimal.

The topic new anticoagulants (NOACs) was addressed and their desired advantages were listed as:

- Rapid onset of action;
- Predictable effect;
- Low potential for food.
- Interactions with the following clinical implications:
  - no need for bridging;
  - no need for monitoring;
  - no dietary precautions.

Several studies were shown and in particular the efficacy and safety of Dabigatran compared with Warfarin at different levels of international normalized ratio control for stroke prevention in atrial fibrillation (The Lancet Volume 376, Issue 9745,2010,975 – 983). In these studies noninferiority was shown against Warfarin at different TTR with no difference reached at higher TTR, the key message here was: TTR really matters!

In conclusion of this presentation, the Cochrane review regarding self-monitoring and self-management of anticoagulation was discussed highlighting the authors conclusions that:

- Patients who self-monitor or self-manage can improve the quality of their oral anticoagulation therapy;
- The number of thromboembolic events and mortality were decreased without increases in harms and
- Self-monitoring or self-management were not feasible for up to half of the patients requiring anticoagulant therapy (Garcia-Alamino et al. The Cochrane Library 2012, Issue 5).

Reporter: M. Simon
The challenge of a successful management of the OAC dosis. Patient compliance, anticoagulants and TTR. **Anders Själander, MD, Sundsvall, Sweden**

Dr Själander started his talk highlighting the different TTR for either stroke or intracranial hemorrhage but stressing that actually the variance in INR is more important than TTR itself. Below 2 is dangerous, above 3 is less critical. He also mentioned that TTR is not everything, how well the patient is managed as well as the level of knowledge of the patient are also very important.

Dr Själander concluded his talk by presenting “AuriculA”: The Internet and computer supported system for INR control, warfarin dosing and quality control of anticoagulation. The Swedish national quality registry for atrial fibrillation and anticoagulation has over 80’000 patients, (2.5 million dosings), with a TTR of >78% today. (Bleeding 2.2% per year, Thrombosis 1.1% (AF), 0.8% (VTE). Hospital TTR in Sweden is average of all INR patients (no exclusion). Interestingly the most compliant are the 70-79 years old patients and the best TTR is found in AF patients. Blood pressure (BP) measurement is currently not included in AuriculA but would be important to have because BP is critical in AF patients, in fact BP should always be controlled in these patients.

**International Self-Monitoring Association of oral Anticoagulated Patients (ISMAAP), Geneva/Switzerland, www.ismaap.org, E-Mail: c.schaefer@ismaap.org**