Self-management of oral anticoagulant therapy

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ABSTRACT

This PhD study was conducted during my employment at the Department of Cardiothoracic and Vascular Surgery & Institute of Clinical Medicine, Skejby Sygehus, Aarhus University Hospital, Aarhus, Denmark.

The dissertation is based on four original articles and one review article, all published in international peer-reviewed journals.

Oral anticoagulation therapy (OAT) is used as thromboprophylaxis in many conditions, but since OAT increases the risk of bleedings, the therapy implies a balance between these two complications. OAT must therefore be tightly controlled. An optimized management of OAT is a key factor for improving the quality of OAT. Patient self-management (PSM) seems to be a promising option for improving treatment quality.

Children with congenital heart disease on OAT present special challenges, e.g. due to rapid fluctuations in INR-values, interruption on daily life due to frequent hospital/doctoral visits. Therefore, it seems relevant to test the feasibility of PSM in children.

Study I is a cohort study in which mechanical heart valve patients (N=24) performing PSM were followed for up to four years. A matched, retrospectively selected group of conventionally managed heart valve patients (control group) was used as reference. The median observation time was 1175 days (range: 174-1428 days). The PSM group was within therapeutic INR target range for a mean of 78.0% (range: 36.1%-93.9%) of the time compared with 61.0% (range 37.4%-92.9%) for the control group. It was concluded, that PSM is a feasible and safe concept and provide good results for selected patients with mechanical heart valve prostheses.

Study II is a case-series study where mechanical heart valve patients (N=94) performed PSM. The mean observation time was 2.1 years (range: 0.04-6.2 years). The patients were within therapeutic INR target range for a median of 76.0% (range: 32.1-100.0%) of the time. There were two major thromboembolic events and five major bleedings events. It was concluded, that PSM provides a good treatment quality for selected mechanical heart valve patients.

Study III and IV are both case-series studies regarding children with congenital heart disease, including 14 and 22 children, respectively. The mean observation time was 547 days (range: 214-953 days) and 3.6 years (range: 0.9-5.8 years), respectively. The patients were within the therapeutic INR target range for a median of 65.5% (range: 17.6%-90.4%) and 73.1% (range: 30.3-91.0%) of the time, respectively. It was concluded that PSM is safe and provides a good quality of treatment in selected children with congenital heart disease.

Study V is a review article, where the different aspects of PSM are critically reviewed. Despite relatively low evidence, it was concluded that PSM provides a good treatment quality in selected patients.