

Is therapeutic quality influenced by choice of thromboplastin?

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Introduction:

In the Netherlands, therapeutic quality among the 58 anticoagulation clinics, is defined, amongst others, using the cross-section of the files method. Therapeutic quality is measured in two therapeutic ranges: first (INR between 2.0 and 3.5) and second therapeutic range (INR between 2.5 and 4.0). For years, remarkable quality differences among the anticoagulation clinics have been recognized. In this study, we investigated whether the therapeutic quality is influenced by the type of thromboplastin used for INR measurement.

Methods:

Annual reports from the Dutch anticoagulation clinics were reviewed and the quality of anticoagulation treatment was compared with the type of thromboplastin used. Next, we investigated if quality improved locally, after altering the type of thromboplastin. As INR-measurements for our institute are performed at two different hospitals, in one of them, the Beatrix hospital, we replaced the type of thromboplastin used. Here, innovin (recombinant thromboplastin) was replaced by hepatoquick (thromboplastin derived from rabbit brain). At the other hospital, (the Albert Schweitzer), innovin continued to be used.

Results:

Services using hepatoquick for INR-measurements (n = 15) had a median quality score of 81% of INR's in the first therapeutic range and 80% in the second. Services using innovin (n = 25) scored significantly worse: 78% of INR's in the first therapeutic range and 71% in the second. Locally, therapeutic quality improved almost instantly when innovin was replaced by hepatoquick for INR-measurement.

Conclusion:

Differences in therapeutic quality among anticoagulation clinics are partly associated with the type of thromboplastin used. Moreover, local therapeutic quality may improve upon switching from one type of thromboplastin to another.