CORRESPONDENCE

Cardioversion in Non-valvular Atrial Fibrillation

by Prof. Dr. med. Hermann H. Klein and Prof. Dr. med. Hans-Joachim Trappe
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Embolic Risk Is Time-dependent

The nice review by Klein und Trappe (1) should be supplemented by the data of Nuotio et al. (2). In a retrospective analysis of 5116 cardioversions without prior anticoagulation, thromboembolic events occurred only in 0.3% of patients when cardioversion was performed within the first 12 hours of atrial fibrillation. However, this rate increased to 1.1% when cardioversion was performed after more than 12 but less than 48 hours.

The rate of thromboembolic events in the entire patient population was 0.7%, thus within the range of 0.3% to 0.8% reported elsewhere (3).

In my view, the almost fourfold increase in risk of thromboembolic events observed when cardioversion is performed more than 12 hours after onset of atrial fibrillation indicates that it might be useful to review the practice of cardioversion without prior transesophageal echocardiography even after an atrial fibrillation duration of less than 48 hours and to initiate adequate oral anticoagulation therapy in all non-urgent cases with atrial fibrillation of more than 12 hours' duration.

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In Reply:

In his letter, Dr. Kuklinski has highlighted the time-dependent risk of thromboembolic events associated with cardioversion in non-anticoagulated patients within the first 48 hours of atrial fibrillation. While cardioversion within 12 hours of atrial fibrillation was associated with a rate of thromboembolic events of only 0.3%, this complication rate increased to 1.1% if cardioversion was performed within 12 to 48 hours of atrial fibrillation (1). Thus, he raises the issue whether these patients should be assessed using transesophageal echocardiography prior to cardioversion and whether in non-urgent cases oral anticoagulation therapy should be initiated before cardioversion.

In our review (2), we appreciated the data of the Finnish study (3) in our reference 18 by proposing that an effective anticoagulation therapy should be in place with every cardioversion. Whether transesophageal echocardiography prior to cardioversion of atrial fibrillation with a duration of 12 to 48 hours is capable of reducing the risk of thromboembolic events has, to the best of our knowledge, not been studied to such an extent that this approach could be recommended. From a clinical point of view, this measure is perfectly justifiable. Instead of the proposed oral anticoagulation therapy prior to cardioversion of recent-onset atrial fibrillation, we think it is more practical to administer primary intravenous (unfractionated heparin) or effective subcutaneous anticoagulation therapy (for example enoxaparin) before cardioversion. Alternatively, the new oral anticoagulants could be given greater importance because of their rapid onset of action.

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Conflict of interest statement
The authors of both contributions declare that no conflict of interest exists.