

The Dynamics of D-dimer Level Fluctuation in Patients after the Cemented and Cementless Total Hip and Total Knee Replacement

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The number of total hip and total knee replacement procedures performed worldwide has tended to surge in recent years, due to the combination of such factors as the increased life expectancy, improved quality of life, advances in medical technology as well as pre-operative and post-operative patient management. Numerous studies confirm that patients undergoing major orthopedics procedures involving lower extremities, for instance total hip and total knee replacement, constitute the highest risk group for the development of post-operative venous thromboembolism [VTE], primarily manifested as deep vein thrombosis [DVT].

The purpose of the research was to assess the dynamics of D-dimer level fluctuation during the post-operative period in patients after the cemented or cementless total hip replacement [THR] or total knee replacement [TKR], in order to prove or reject the thesis that the cemented and cementless total hip replacement [THR] or total knee replacement [TKR] affects the post-operative D-dimer levels.

The study group consisted of 47 patients aged 29 - 82 years. 23 of them had the cementless THR, 12 subjects had the cemented THR and another 12 patients had the [TKR].

All of the patients was performed to measure the concentration of D-dimers in the peri-operative period at predetermined time points. For the peri-operative period was adopted from time 1 day before surgery to 10 day hospitalization. The subarachnoid block (SAB) was performed in all patients.

It showed that the distribution of D-dimer values throughout the entire post-operative period [up to 10th post-operative day] followed the sinusoid pattern with two peaks in all patients. It was not specific in any group.

However the most important conclusions emerging from this study were consequent

1. The D-dimer level almost doubles during the post-operative period in patients after THR or TKR.
2. Higher level of d-dimers in post-operative period in the research group of patients does not relate to higher risk of thromboembolic disease

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