

CAN WE INFLUENCE THE EFFECTS OF TOURNIQUET BY ADMINISTRATION OF NSAID IN PATIENT UNDERWENT LOWER EXTREMITY OPERATIONS

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Ischemia-reperfusion (I/R) injury may have an adverse effect on blood rheological parameters and on clinical results. Surgical complications might be based on worsening of micro-rheological blood parameters, like red blood cell (RBC) aggregation and deformability (including membrane stability and osmotic gradient deformability). The consequences of these effects are microcirculatory deterioration in the operated leg or the whole organism. In this study the microrheological parameters of patients (average age: 54.7 years) who underwent elective knee surgery (total knee replacement or anterior crucial ligament replacement) was investigated. The average ischemic (tourniquet) time was: 92 ± 15 mins. Seven patients did not receive NSAID (Control group), while 5 patients received 4 mg/bwkg sodium-diclophenac from the beginning of reperfusion, which was repeated in the postoperative (p.o.) period (NSAID group). Further 6 patients were pre and postconditioned by repeated short tourniquet times 24 hours pre- and postoperatively. Blood samples were collected from the femoral vein of the operated side before the ischemia and 10 minutes following the start of reperfusion as well as on the 1st and 2nd p.o. day. RBC deformability decreased by the 1st and 2nd p.o. day in the Control group. RBC aggregation index (AI%) increased by the 2nd day, aggregation half-time decreased. Light-transmission aggregometry indices increased by the 1st, and more expressively by the 2nd day in the Control group. Pre- and postconditioning and the administration of NSAID could diminish postoperative micro-rheological deterioration after lower extremity I/R.