Why Do Orthopedic Patients Have a Higher Incidence of Serious Complications after Central Neuraxial Blockade?

To the Editor:—The authors should be congratulated on their comprehensive work "Severe Neurological Complications after Central Neuraxial Blockades in Sweden 1990–1999."[1] A variety of biases, which usually are inherent in such study designs, were successfully controlled. Considering previous data from the 1990s,[2,3] the current incidence of complications is alarmingly high, but it stands in line with most recent respective surveys.[4,5]

One question, however, deserves discussion. The authors described significantly higher incidence of spinal hematomas in the population of orthopedic patients, but the underlying causes remain partially unexplained. The authors presume that the high incidence may be related to low-molecular-weight heparin administration, which was introduced for thromboembolism prophylaxis during the study period.

In an 8-yr survey regarding serious complications after regional anesthesia at our institution,[6] we observed three spinal epidural hematomas in 28,933 central neuraxial blocks, of which two occurred in the subgroup of orthopedic patients (n = 4,205), indicating similar incidences and risk factors as reported by Moen *et al.*[1] One of the hematomas was previously reported elsewhere,[7] and the second one occurred after spinal anesthesia in a patient treated with unfractionated heparin. Both patients were concomitantly treated with nonsteroidal antiinflammatory drugs (NSAIDs), which were not considered a risk factor at that time. The third hematoma developed in a patient with heparin-induced thrombocytopenia during postoperative epidural pain therapy after hemihepatectomy. No hematoma occurred in urologic (n = 10,817) or obstetric (n = 4,250) patients.

The discussion about the risk of spinal hematoma in patients with NSAID (antiplatelet) therapy remains controversial. In orthopedic patients treated with aspirin, Horlocker *et al.*[8] did not observe an increased risk of spinal hematoma during spinal anesthesia. However, in 1984, Cronberg *et al.*[9] reported on the effects of NSAIDs on the second wave of aggregation, which was considered a key issue in our patient.[7] In urologic patients (no hematoma in 10,817 neuraxial blocks), the risk profile regarding comorbidity and comedication is comparable to that of orthopedic patients, with the exception of concomitant therapy with NSAIDs.

We believe that the combination of heparin and NSAIDs in orthopedic patients is responsible for the higher risk of spinal hematoma in this group as compared with obstetric patients.[1] Because pain therapy with NSAIDs is widespread in patients in need of (orthopedic) hip or knee joint replacement surgery, it would be of interest if the authors could provide any information regarding the concomitant use of NSAIDs in their cohort of orthopedic patients.

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