

Letters to the Editor

Caution When Withholding Antithrombotic and Antiplatelet Agents for Interventional Spine Procedures and the Need for Further Risk Stratification

TO THE EDITOR:

It is with admiration that we wish to acknowledge the recent review "Responsible, safe, and effective use of antithrombotics and anticoagulants in patients undergoing interventional techniques: American Society of Interventional Pain Physicians (ASIPP) Guidelines" (1). This subject has important implications for practitioners and patients. We appreciate the comprehensiveness implemented to define and stratify the risk of neurologic complication associated with epidural hematoma during certain interventional spine procedures, which lends further support to the concept of withholding antithrombotic therapy only when the clinical picture demonstrates an improved overall patient health benefit. Categorizing spine interventions into high, medium, and low risk has been institutionalized through the publication of "Interventional spine and pain procedures in patients on antiplatelet and anticoagulant medications (second edition)" (2E) (2). We find it encouraging that this review independently assessed the evidence and found points of agreement and disagreement with 2E (3-5). Similarly, we have analyzed the evidence and although we generally agree with both the present review and 2E, we have reached divergent conclusions in 2 areas.

First, the published evidence indicates that lumbar transforaminal epidural steroid injections (L-TFESI) should be classified as "low risk" rather than "moderate risk." The evidence of hematoma rests on only 3 case reports, neither of which specify the presence of anticoagulant (AC)/antiplatelet (AP) therapy (3,4). One case resulted in a foraminal/subarticular hematoma with transient monoradiculopathy (6). The other 2 cases were associated with small epidural hematomas without clinically significant sequelae and of unclear temporal and spatial relation to the injections performed (7,8). None of the case reports described the use of a

satisfactory technique. As such, there remains a lack of published evidence that clinically significant epidural hematoma is a complication of L-TFESI. Indeed this is logical, as with proper needle positioning, a foraminal hematoma might compress the exiting nerve root, but not the spinal cord or cauda equina in the central canal.

Second, we agree with the present review that 2E orients the Guidelines to minimize the potential neurologic complications of epidural hematomas, but in doing so minimizes the risks associated with withholding antithrombotic therapy. AC and AP therapy actively suppress risk of serious thrombotic complication in appropriate patient populations, and thus there is inherent risk associated with the discontinuation of AC/AP that must not be ignored. There is potential benefit in further stratifying the risk of discontinuation of such agents based on individual risk factors including the primary indication for the AC/AP medication and other related medical comorbidities. For example, withholding AC therapy for the diagnosis of nonvalvular atrial fibrillation (a-fib) exposes the patient to an annualized risk of stroke ranging from 2.2% to 17.5% depending on additional factors (gender, age, congestive heart failure, hypertension, diabetes mellitus) (9,10). The diagnosis of a-fib itself has a variable stroke risk depending on whether it is paroxysmal, persistent, or permanent (11). Similarly, withholding AP therapy for someone with coronary artery disease (with revascularization or stent) has risk of coronary artery thrombosis ranging from 1% to 15%. Thrombotic risk in patients with stents is also variable depending on the type of stent (bare metal, drug eluting, < 6 months, < 12 months, small diameter, recurrence, etc.) (12).

The measured risk (myocardial infarction, stroke, pulmonary embolism) of withholding AC for a variety of interventional spine procedures has been estimated

to be approximately 0.4% (13). Alternatively, the measured risk of a L-TFESI epidural hematoma in the published literature is near zero (14). The risk of an L-TFESI causing an epidural hematoma is possibly nonzero, but it is likely that in most situations, the morbidity and mortality risk of withholding AC or AP therapy for this procedure is greater.

In summary, there is a need for a new evidence-based guideline on management of AC and AP therapies in the setting of interventional spine procedures that includes risk stratification according to 3 dimensions: (1) procedure-specific risk of epidural hematoma, (2) thrombotic risk if AC or AP therapy is withheld for a given procedure, and (3) patient-specific risk assessment that accounts for factors influencing the occurrence of a thrombotic event if AC or AP therapy is withheld. The field of spine intervention, like cardiology, neurology, and others, must also embrace the complexity and case-by-case danger associated with withholding AC and AP therapy.

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