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Marta Arévalo,\* Mireia Moreno, Jordi Gratacós

*Servicio de Reumatología, Hospital Universitari Parc Taulí de Sabadell, Sabadell, Barcelona, Spain*

\* Corresponding author.

E-mail address: [marevalo@tauli.cat](mailto:marevalo@tauli.cat) (M. Arévalo).

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### Safety of Joint Puncture in Patients Receiving Anticoagulant Therapy With Dabigatran<sup>☆</sup>



### Seguridad de la punción articular en pacientes en tratamiento anticoagulante con dabigatrán

To the Editor,

In a study that our research group published recently in this journal, we demonstrated the relative safety of intra-articular injection in patients anticoagulated with acenocoumarol.<sup>1</sup> These results agreed with those that had been previously reported for warfarin users.<sup>2,3</sup> In the last few years, other oral anticoagulants have been made available for the secondary prevention of stroke or primary prevention of thrombotic phenomena of any type in patients in whom the anticoagulation achieved with acenocoumarol was difficult to control.<sup>4</sup> After the experience in our registry of patients taking acenocoumarol, we reviewed our findings concerning complications following intra-articular injection of the knee and periarticular injection in shoulder in patients receiving dabigatran, a drug from a new generation of oral anticoagulants, with proven efficacy in the prevention of primary and secondary embolic events, which is especially indicated in patients in the geriatric population who have been diagnosed with atrial fibrillation.<sup>5</sup>

Between 2012 and 2016, patients in our center receiving dabigatran underwent 68 intra-articular injections in the knee and 49 periarticular injections in shoulder. The mean age of the patients at the time of the intervention was 71 years (standard deviation: 3) and the proportion of women was 47.8%. Dabigatran users were considered to be those being treated with the drug for at least 1 month. Of the 117 procedures, 78 (66.6%) were carried out by specialists in orthopedics, rheumatology or physical medicine and rehabilitation, and the rest by residents. Of the 68 intra-articular interventions performed in knees, 48 (70.5%) involved arthrocentesis of the synovial fluid as well as injection, whereas, in the remainder, the treatment consisted of the injection alone. In the 49 procedures involving the shoulder, fluid was collected from the bursa in 12 cases (24.4%) and the remainder of the procedures involved only the injection. Ultrasound guidance was utilized in 16 injections in the knee and 17 in the shoulder (23.5% and

34.6%, respectively). The follow-up of the course of the patients who underwent the interventions was done using the Horus<sup>®</sup> system, the follow-up chart of the rheumatological and musculoskeletal unit of the emergency department (RMSED) and/or the registry of visits to the emergency department of our hospital. Of all the patients who were treated with intra-articular injection of the knee, 11 (16.1%) consulted within the first 15 days in relation to the procedure they had undergone. Of these, 9 of them came because of the persistence of the major symptom or discomfort and 2 because of an increase in the pain. Both patients underwent ultrasound and 1 of them had a conservatively treated hemarthrosis. Of the 49 patients whose intervention involved the shoulder, 7 (14.2%) consulted during the first 15 days. The reason in every case was persistence of the symptom. None of the patients were hospitalized. None of the patients in whom ultrasound guidance had been employed consulted within the first 15 days. No patient consulted because of bleeding after the first 15 days. The performance of the treatment by a specialist or a resident did not significantly influence the results of the procedure; however, all of the ultrasound-guided procedures were carried out by a rheumatology specialist.

Judging by our latest results, intra-articular injection of the knee and periarticular injection of the shoulder in patients receiving anticoagulant therapy with dabigatran seems to be comparatively safe as compared to treatment with acenocoumarol. As is well known, the study of the synovial fluid is fundamental for making decisions in cases of acute monoarthritis, and delaying needle aspiration for any reason—such as a history of anticoagulation—contributes to an increase in the risk of irreversible or even fatal joint lesions when the suspected diagnosis is infectious arthritis.<sup>6,7</sup>

Our recent results, plus those previously obtained in patients taking acenocoumarol and others confirmed for warfarin, underline the fact that the condition of anticoagulation should not be an impediment or justification for delaying diagnostic or therapeutic intra-articular or periarticular injection.

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Carlos Antonio Guillén Astete,\* María Terán Tinedo,  
José Renato Quiñones Torres, Mónica Luque Alarcón, Alina Boteanu

*Servicio de Reumatología, Hospital Universitario Ramón y Cajal,  
Madrid, Spain*

\* Corresponding author.

E-mail address: [Cguillen.hrc@salud.madrid.org](mailto:Cguillen.hrc@salud.madrid.org)

(C.A. Guillén Astete).

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