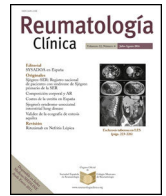




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## Editorial

### Interventional Rheumatology, an Unsettled Issue<sup>☆</sup>



### Reumatología intervencionista, una asignatura pendiente

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The objective proposed by clinical rheumatologists over the last 2 decades has been to acquire new skills that enable them to carry out an increasing number of procedures. This is now a reality in fields like ultrasound, capillaroscopy, densitometry and biopsies, among others. Thus, in the 21st century, rheumatologists have come to be more technically proficient, with dedicated clinics and training, and through their collaboration with research units. However, there are still a number of unresolved matters.<sup>1–3</sup>

Interventional rheumatology is a field in which rheumatologists are responsible for performing minimally invasive procedures for diagnostic and therapeutic purposes in patients with mechanical and/or inflammatory musculoskeletal diseases accompanied by acute or chronic pain that is refractory to standard treatment. Since the first reports published by Hollander et al. in 1951, that introduced the use of corticosteroids injected into the joint for the treatment of pain and inflammation,<sup>4</sup> intraarticular injections have come to be a frequently employed tool in rheumatology, and their success is based on knowledge of certain anatomical references. However, over the years and with the advent of new technologies, and the understanding and training in the use of ultrasound, the capability of performing these procedures with ultrasound guidance was achieved, making them more efficient and safer.<sup>5</sup>

These advances and our experience with medical imaging systems, in addition to new discoveries concerning chemical mediation of pain and inflammation, as well as the development of injection techniques with a greater diagnostic and therapeutic accuracy, led to a wider use of minimally invasive techniques in the management of pain. The performance of these procedures requires more time than that allotted to the patient visit, with radiological monitoring (ultrasound or fluoroscopy) to locate the anatomical structures to be treated, an appropriate setting and the necessary equipment to carry out the technique and patient monitoring. Thus, these treatments traditionally take place in pain clinics, where diverse interventions can be performed with reasonable evidence, including intraarticular and periarticular injections,

epidural injection and treatments involving facet and sacroiliac joints, among others.<sup>6</sup> Likewise, there are other procedures, applicable in patients with musculoskeletal pain, that are more effective and longer-lasting than injections of local anesthetics and corticosteroids, as is the case of radiofrequency.<sup>7</sup>

However, in recent years, rheumatology specialists are taking on a central role in the performance of these procedures in the management of pain. That explains why interventional rheumatology units are being created. One of the first in Spain was that established in Hospital Universitario de Gran Canaria Dr. Negrín, directed by Dr. Félix M. Francisco Hernández, which was inaugurated in January 2003. It offers diverse types of interventional therapy, such as radiologically or ultrasound-guided nerve block (head, trunk and extremities), radiologically or ultrasound-guided intraarticular or periarticular injection, knee, shoulder and thigh joint lavage and myofascial trigger point injection, with or without ultrasound guidance, with anesthesia or botulinum toxin.

Technological advances in ultrasound in recent years have enhanced the quality of the image and led to the development of more advanced modalities, such as 3D/4D ultrasound and the Doppler study. With these improvements, ultrasound now occupies a key position in the spectrum of alternatives available to the rheumatologist. In a study reported by Gil et al., it was observed that the use of ultrasound has gone from being merely an instrument for the anatomical examination of a joint and has become a tool that in 72.8% of the cases is used to obtain clinical diagnostic-prognostic information and 10.6% of the time is employed for the performance of interventional therapeutic procedures.<sup>8</sup> This increasing utilization of ultrasound has been translated into a nearly exponential increment in the number of publications in this respect, which point out its safety and accuracy.<sup>9</sup> However, in some centers, ultrasound-guided injections continue to be underused, and are utilized in only 10% of the cases in certain European countries, where blind injection, the most commonly adopted method, is implemented.<sup>10,11</sup>

Performing ultrasound-guided procedures with the equipment that is now available, particularly the portable systems, means that they are ambulatory, more convenient, effective and safer. Moreover, they enable control of the placement of the needle, are innocuous in patients and the cost is lower when compared with fluoroscopic or ultrasound guidance.<sup>12,13</sup> In 1993, Jones et al. were the first to determine that the rate of success in placing the needle according to the palpation of anatomical landmarks was

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approximately 50%. Thus, they proposed that the exact placement of the needle using image guidance could diminish the discomfort experienced by the patient and reduce incidental harm to adjacent structures, as well as atrophy of extraarticular soft tissue.<sup>14</sup> Since then, this has been corroborated by a number of studies that point out the improvement in safety and the results obtained in different medical specialties. It is becoming increasingly recognized that the performance of these procedures using anatomical points of reference is not always successful (especially in the case of small or deep joints) and entails the possibility of vascular or nerve injury.<sup>15</sup> In a study by Daga et al., 27% of the physicians consider that the use of ultrasound reduces possible complications, 31.8% that it facilitates the performance of the procedure and 59.7% that it guarantees greater accuracy.<sup>16</sup> A literature review carried out by Kane and Koski analyzed the accuracy, efficacy and complications, comparing the procedures involving anatomical landmarks with the utilization of ultrasound guidance, and found a difference in terms of accuracy (27%–72% vs 87%–99%), associated with a lower number of complications.<sup>17</sup>

This means that, at the present time, there are a number of Spanish hospitals in which rheumatology has incorporated into its service portfolio the performance of minimally invasive interventional procedures in a setting or agenda that is not included in routine patient care. The pain unit of our hospital has a unique situation, in which the rheumatologists not only perform the interventional procedures they have scheduled each day, but also coordinate the unit in collaboration with the anesthesiology team.

Lastly, this field of rheumatology should become more widespread as it is gaining in importance in recent years, not only to make these current activities on the part of rheumatologists known to the scientific community, but also to transmit the therapeutic alternatives that we can offer our patients and to continue expanding our training beyond the instruction received during residency, specifically in the performance of ultrasound-guided interventional techniques for the treatment of mechanical and/or inflammatory pain.

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