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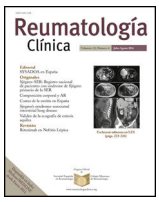

Brief report

Specialized Rheumatology Clinic in an Emergency Department: A Year of the Rheumatology and Musculoskeletal Emergencies Clinic (RMSEC) Experience☆

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ABSTRACT

Background: In October 2013, the emergency department of our hospital started up a rheumatology and musculoskeletal emergencies clinic (RMSEC) with the participation of three specialists in Rheumatology. The purpose of this study was to describe the experience gained in the first year since the beginning of our activity.
Method: A descriptive study of healthcare activity of the RMSEC throughout its first year of operation was performed.
Results: 1788 assessments on 1663 patients were performed. The range of age was 7–67 years. 1530 (85.57%) assessments were performed in patients of the healthcare area of our hospital. Of all the assessments made, 633 (35.4%) were related to inflammatory processes and the remaining 1155 (64.6%) to mechanical or degenerative joint or soft tissue processes.
According to the topography of the complaint, 435 (24.3%) patients consulted for a process related to the knee, 362 (20.3%) with axial lumbar region and 336 (18.8%) with the shoulder.
Conclusion: Our results denote an intense clinical activity that could have a positive impact on the management of rheumatic and musculoskeletal general emergency.

La consulta especializada de reumatología en un servicio de urgencias: un año de experiencia con la unidad de urgencias reumatológicas y musculoesqueléticas (URMES)

Palabras clave:
Dolor musculoesquelético
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RESUMEN

Introducción: En octubre de 2013, el servicio de urgencias de nuestro hospital implementó una consulta de urgencias reumatológicas y musculoesqueléticas (URMES) atendida por 3 especialistas en Reumatología. El propósito del presente estudio es describir la experiencia acumulada en el primer año desde el inicio de la actividad de esta consulta.
Método: Se realizó un estudio descriptivo de la actividad asistencial de la URMES a lo largo de su primer año de funcionamiento.

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Resultados: Se realizaron 1.788 atenciones a un total de 1.663 pacientes. La media de la edad de los pacientes atendidos fue de 67 años (DE 7); 1.530 (85,57%) valoraciones se realizaron en pacientes correspondientes al área de influencia de nuestro hospital. De todas las valoraciones realizadas, 633 (35,4%) correspondieron a juicios clínicos relacionados con procesos inflamatorios y el resto, 1.155 (64.6%), a procesos mecánicos o degenerativos, articulares, paraarticulares o de partes blandas. De acuerdo con la topografía del motivo de consulta, 435 (24,3%) pacientes consultaron por un proceso relacionado con la rodilla, 362 (20,3%) con la región axial lumbar y 336 (18,8%) con el hombro.
Conclusión: Nuestros resultados denotan una intensa actividad asistencial que parece repercutir positivamente en el manejo de las urgencias reumatológicas y musculoesqueléticas en general.

Introduction

The prevalence of musculoskeletal disorders not related to trauma in the emergency medicine setting has been studied very little; however, it is estimated that they may reach between 14% and 16% of all the reasons for going to the emergency department.[1,2] These motives generate, in our experience, the need for repeated evaluation of around 17% of the patients attended to within less than 1 month from their first visit, with the consequent overburdening of the health system.[2]

In October 2013, the emergency department of our hospital implemented a rheumatology and musculoskeletal emergency clinic (RMSEC) attended to by 3 rheumatologists, contracted to work in the emergency department. Assignment to this clinic is rotatory among the physicians, and it is programmed monthly.

The purpose of the present study is to describe the experience accumulated during the first year since the activity of this clinic was initiated.

Material and Methods

Descriptive study that comprises all the activity of the first year of the RMSEC from the 1 of October of 2013.

The source of the information was the registry of the patient care activity of the RMSEC, corresponding to the above period, included in the database of the emergency department of our hospital. The demographic and epidemiological data were obtained from the clinical histories of the patients being attended to.

Human and Logistic Resources

The RMSEC has an office equipped with all the furnishings and instruments for the practice of a rheumatology clinic. There is a Logiq *e* portable ultrasound (GE Healthcare, United States), with a linear probe of 8–13 MHz and equipment and instrumental for performing aspirations and articular or periarticular local injections. The RMSEC is outfitted with all the features of an emergency department clinic.

The RMSEC is open for patient care 3 days a week from 08:00 to 15: 00 h. Certain patients have been seen at other hours by physicians from the RMSEC as an exceptional gesture.

In turn, an RMSEC physician can request interdisciplinary assistance from other specialties. This may help us introduce advanced diagnostic procedures like temporal artery biopsy, as well as skin or muscle biopsy, when our suspicions consider them necessary.

Criteria for Evaluating Care Provided in the Rheumatology and Musculoskeletal Emergency Clinic (RMSEC)

Since the start of its activity, the RMSEC provides care to all those patients who have any of the following reasons for going to the doctor:

- Musculoskeletal pain not related to direct or indirect trauma.
- Systemic or musculoskeletal manifestations in patients diagnosed as having an autoimmune inflammatory disease.
- The express request for our assessment made by another physician.

The criteria for exclusion on the basis of the motive:

- The suspicion of an acute vascular, venous or arterial process.
- A prosthetic joint.

Since January 2014, the first criterion for evaluation by the RMSEC was modified and another was incorporated. Since then, the first 2 criteria are:Peripheral musculoskeletal pain not related to direct or indirect trauma.A more than 3-month history of axial musculoskeletal pain in an individual of less than 40 years, recent-onset pain in patients in whom osteoporosis is suspected, or axial pain occurring at any age and regardless of the duration, for which the patient had been seen in less than 1 month.

Results

Throughout this period there were 1788 activities in a total of 1663 patients. Of all the care duties performed, 1490 (83.3%) were carried out during normal working hours and 298 (16.7%) were done outside of that period. A total of 953 acts were performed in women (53.3%). The overall mean patient age was 67 years (standard deviation [SD], 7); 1530 assessments were carried out in patients corresponding to the area of influence of our hospital.

The need for care came: 1022 (57.2%) directly from the patient, 294 (16.4%) from primary care, 289 (16.2%) the request of another physician from the emergency room, 69 (3.9%) programmed check-up, 69 (3.9%) the request from a resident from the emergency department and 45 (2.5%) the repeated request on the part of the patient.

In accordance with the topography of the reasons for coming to the clinic, 435 (24.3%) patients were there for a process related to the knee, 362 (20.3%) for axial low back pain and 336 (18.8%) for a shoulder. Table 1 shows the details of the topographic distribution of the motives for coming over a 4-month period.

Of all the assessments, 1155 (64.6%) corresponded to mechanical or degenerative processes, to the joints, periarticular changes or soft tissue. The remainder, 633 (35.4%) corresponded to clinical issues related to inflammatory/autoimmune processes, which include 368 *newly* diagnosed patients and attention to 275 previously diagnosed patients with exacerbations or flares (Table 2).

As part of the activity of the RMSEC, care provided to patients included 390 local injections, 292 cases of arthrocentesis/bursal aspiration, 381 cases of ultrasound and 3 nerve blocks. Likewise, the RMSEC ordered the performance of 4 deep muscle biopsies, 10 skin biopsies, 12 connective tissue biopsies and 2 temporal artery

Table 1
Topographic Distribution of the Reasons for Going to the Emergency Department.

Region affected	Trimester[a]				Number of care duties	Proportion with respect to every 100 care duties[b]
	First	Second	Third	Fourth		
Axial low back	147	78	75	62	362	20.3
Axial cervical	17	13	10	5	45	2.5
Axial thoracic	17	8	7	3	35	1.9
Knee	99	101	138	97	435	24.3
Shoulder	82	88	72	94	336	18.8
Elbow	45	43	38	34	160	8.9
Carpus and hand	52	50	41	32	175	9.7
Foot and ankle	40	42	36	47	165	9.2
Hip	25	20	34	19	98	5.4

[a] From the second trimester on, the RMSEC excluded axial pain as a classification criterion and included, as an exception to axial, 3 specific circumstances: (a) a more than 3-month history of axial musculoskeletal pain in an individual of less than 40 years; (b) recent-onset pain in patients in whom osteoporosis is suspected; and (c) pain occurring at any age and regardless of the duration, for which the patient had been seen again in less than 1 month.

[b] The sum of the percentages is greater than 100% because there are cases in which the reason for coming involved more than 1 topographical location.

biopsies that were done on the same day. The RMSEC indicated the performance of 2 muscle biopsies, a connective tissue biopsy and a temporal artery biopsy.

In 112 encounters (one out of every 16 patients assessed), at least a plain radiograph was requested. The RMSEC staff ordered (at least) laboratory tests in 250 patients (1 of every 11 patients attended to). During that period, the RMSEC arranged for 11 individuals to be admitted to the hospital as patients of the rheumatology department.

The proportion of patients attended to by the RMSEC who returned to the emergency department spontaneously within the first month was 2.5%. If we include scheduled appointments for RMSEC evaluation, the proportion was 10.3%.

Discussion

We are not familiar with a specialized rheumatology clinic like RMSEC in any of the emergency departments of Spain.

In previous studies, we found that the overall prevalence of patients who would be receptive to evaluation by the RMSEC would be around 15% of all those who come to the emergency department. In our experience, the number of actions performed in the

Table 2
Distribution of Diagnoses or of Diagnostic Approximations of Known Inflammatory Processes.

Diagnosis	New diagnosis	Flare/recurrence	Total	%
Infectious arthritis				
Knee	13	–	13	2.1
Hip	8	–	8	1.3
Other sites	6	–	6	0.9
Bursitis				
Elbow	67	20	87	13.7
Knee	73	19	92	14.5
Other sites	6	1	7	1.1
Microcrystal arthritis				
Due to uric acid	45	85	130	20.5
Due to calcium pyrophosphate	69	62	131	20.7
Unspecified microcrystal[a]	8	1	9	1.4
Polymyalgia rheumatica	22	14	36	5.7
Giant cell arteritis	3	5	8	1.3
Panniculitis of unknown origin	3	1	4	0.6
Takayasu arteritis	1	1	2	0.3
Erythema nodosum	2	4	6	0.9
Oligoarthritis/polyarthritis of unknown origin	10	14	24	3.8
Leukocytoclastic vasculitis	6	0	6	0.9
Rheumatoid arthritis	–	17	17	2.7
Psoriatic arthritis	–	9	9	1.4
Systemic lupus erythematosus	–	4	4	0.6
Spondyloarthritis	–	14	14	2.2
Adult-onset Still's disease	2	0	2	0.3
Dermatomyositis/polymyositis	3	2	5	0.8
Rhabdomyolysis	3	0	3	0.5
Infectious/parasitic myositis	3	0	3	0.5
Eosinophilic fasciitis	3	1	4	0.6
Mixed connective tissue disease	–	1	1	0.2
Neoplastic diseases[b]				
Mixed rhabdomyosarcoma	1	–	1	0.2
Liposarcoma	1	–	1	0.2
	358	275	633	100.0

[a] Correspond to processes in which the therapeutic management was carried out without an irrefutable demonstration of intracellular crystals depending on the clinical criteria or on ancillary analytical and/or imaging studies.

[b] These diagnoses were determined in the corresponding hospital departments once hospital admission was indicated by the RMSEC, given the suspicion of a soft tissue neoproliferative process. They do not correspond to diagnoses established in the unit.

emergency department is 150,000[3]; thus, it could be estimated that 22,500 patients would expect care in the RMSEC. The first observation to be made is that the RMSEC has provided care for only 1788 patients. Three circumstances can explain the differences: (a) the annual caseload includes pediatric patients, matters concerning gynecology and patients with traumatic injuries; (b) the RMSEC covers 3 morning shifts each week, representing only 15% of the week; and (c) starting in the second trimester of implementation, the criteria for classifying patients was changed.

The number of patients who return to the clinic before a month has gone by was less than that estimated previously in our patient population (17%),[2] or in other countries (15%).[4,5] The activity of the RMSEC appears to reduce considerably the proportion of revisits, even if we count as such appointments scheduled by others.

The spontaneous demand for care by the RMSEC includes patients who have come for a new process and those who are waiting for specialized care, but cannot wait until the day the visit is scheduled. This behavior is not exclusive to those who have musculoskeletal disorders, but can be seen with nearly all the motives for coming to the emergency department.[4,6–8] However, we should point out that, while the definition of an emergency refers to a condition that threatens life, the definition of a medical emergency refers to the perception of the need for medical evaluation and, thus, is a concept dependent on the user and not on the system.[8]

The request for ancillary tests during the evaluation of patients in the emergency department constitutes a cause that prolongs the time required to finish the provision of the care. Although there are Spanish regulations indicating radiological tests in the setting of the management of patients with rheumatic disease,[9] it has been seen that the request for tests of this type observes a pattern more or less dependent on the application of training programs prior to following said recommendations.[10] While the present study is not aimed at measuring the impact of the RMSEC on the request for additional tests, it seems that the proportion of radiological tests requested in the RMSEC (in 6.2% of all the care duties) is less than that observed after the exposure of residents to specific training courses.[10]

The RMSEC is the only specialized consultation that functions in the emergency department of our hospital, and it directly attends patients who are classified according to the abovementioned criteria. Its implementation places the user in direct contact with a significant part of the understanding of our specialty, taking rheumatology to the front line of medical care, the emergency room. We consider that this feature is perfectly in line with the 15th purpose or objective that the Spanish Society of Rheumatology states in title 1, article 2 of its statutes, which refers to diffusion of the specialty among the civil society.[11]

Although this study constitutes the presentation of the experience, so far, of only the first year of operation of our unit, we have the perception that its implementation has had a positive impact on the management of nontraumatic emergencies of the musculoskeletal system. In the meantime, it fulfills its objective of making our activity known as a specialty, at a site of immediate need, like the emergency department.

Ethical Disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Conflicts of Interest

The authors declare they have no conflicts of interest.

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