

Case report of inflammatory low back pain with extensive anatomical-functional impairment: The importance of an adequate approach to low back pain in primary health care

Relato de caso de lombalgia inflamatória com extenso comprometimento anatômico-funcional: a importância de uma adequada abordagem da dor lombar na Atenção Primária à Saúde

Presentación de un caso de lumbalgia inflamatoria con afectación anatómico-funcional extensa: La importancia de un abordaje adecuado de la lumbalgia en Atención Primaria de Salud

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Abstract

Introduction: Low back pain is a prevalent condition that has an important impact on functional capacity and quality of life, and its correct approach in primary health care is fundamental to the identification and establishment of an early etiological diagnosis of possible pathologies that may be related to outcomes morbid conditions and serious functional limitations. **Case presentation:** A 56-year-old male patient, hypertensive, was referred to a specialized rheumatology service; he had a history of low back pain for over 20 years. Physical examination revealed the presence of spinal deformities and extensive movement limitations. Radiographic examinations showed sclerosis of the sacroiliac joints, diffuse osteopenia and a “bamboo” appearance of the spine. **Conclusions:** It is important that in the approach of low back pain in primary health care, we seek to recognize possible serious and potentially disabling etiologies that may underlie the complaint of low back pain. For that, it is essential to recognize the red flags related to low back pain, in addition to its characterization as mechanical or inflammatory. Given the role of primary health care in offering care based on comprehensiveness and the prevention of injuries, the importance of a detailed clinical assessment of low back pain at this level of health care is reaffirmed.

Keywords: Low back pain; Musculoskeletal diseases; Case reports; Primary health care.

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Resumo

Introdução: A lombalgia é uma condição prevalente e que apresenta importante impacto na capacidade funcional e na qualidade de vida, sendo a sua correta abordagem na Atenção Primária à Saúde fundamental para a identificação e o estabelecimento de um diagnóstico etiológico precoce de possíveis patologias que possam estar relacionadas a desfechos mórbidos e a graves limitações funcionais. **Apresentação do caso:** Paciente de 56 anos, sexo masculino, hipertenso, foi encaminhado para serviço especializado de reumatologia com histórico de lombalgia havia mais de 20 anos. Ao exame físico foi constatada presença de deformidades da coluna vertebral e extensa limitação de movimentos. Exames radiográficos mostravam esclerose de articulações sacroilíacas, osteopenia difusa e coluna vertebral em aspecto de “bambu”. **Conclusões:** Constata-se a importância de que na abordagem das lombalgias na atenção primária se busque o reconhecimento de possíveis etiologias graves e potencialmente incapacitantes que possam estar subjacentes à queixa de dor lombar. Com esse objetivo, é fundamental o reconhecimento das chamadas *red flags* relacionadas às lombalgias, além de sua caracterização como mecânica ou inflamatória. Perante a atuação da atenção primária no oferecimento de um cuidado pautado na integralidade e na prevenção de agravos, reafirma-se a importância de uma avaliação clínica pormenorizada das lombalgias nesse nível de atenção à saúde.

Palavras-chave: Dor lombar; Doenças musculoesqueléticas; Relatos de casos; Atenção primária à saúde.

Resumen

Introducción: La lumbalgia es una patología prevalente que tiene un impacto importante en la capacidad funcional y la calidad de vida, y su correcto abordaje en Atención Primaria de Salud es fundamental para la identificación y establecimiento de un diagnóstico etiológico precoz de posibles patologías que puedan estar relacionadas con los resultados, condiciones morbosas y limitaciones funcionales graves. **Presentación del caso:** Paciente masculino de 56 años, hipertenso, remitido a servicio especializado de reumatología con antecedentes de dolor lumbar de más de 20 años. El examen físico reveló la presencia de deformidades de la columna y amplias limitaciones de movimiento. Los exámenes radiológicos muestran esclerosis de las articulaciones sacroilíacas, osteopenia difusa y una apariencia de “bambú” de la columna. **Conclusiones:** Es importante que al abordar la lumbalgia en Atención Primaria de Salud busquemos reconocer las posibles etiologías graves y potencialmente incapacitantes que pueden subyacer a la queja de lumbalgia. Con este objetivo, es fundamental reconocer las llamadas “banderas rojas” relacionadas con la lumbalgia, además de su caracterización como mecánica o inflamatoria. Dado el papel de Atención Primaria de Salud a la hora de ofrecer una atención basada en la integralidad y prevención de enfermedades, se reafirma la importancia de una evaluación clínica detallada de la lumbalgia en este nivel de atención sanitaria.

Palabras clave: Dolor de la región lumbar; Enfermedades musculoesqueléticas; Informes de casos; Atención primaria de salud.

INTRODUCTION

Low back pain is defined by the presence of pain, muscle tension or stiffness located below the costal margin and above the lower gluteal folds, with or without associated ischial pain. When chronic (lasting more than three months) it is associated with functional disability, significantly affecting quality of life.¹ It is a common health problem, which affects 80 to 85% of people,² being the second most prevalent symptom seen at consultations with primary health³ care doctors.³ Approximately 20% of individuals between 20 and 59 years have chronic low back pain, and this prevalence increases with advancing age.⁴

Therefore, given such prevalence, understood is the importance of adequate clinical management of patients with chronic low back pain in primary care, with the adoption of approaches that allow the identification, if present, of serious pathologies requiring specialized treatment or referral of the patient to urgent and emergency services. Thus, we report a case of failure in the management of a patient with chronic low back pain, which culminated in complications related to his underlying disease, resulting in extensive functional impairment and quality of life.

CASE PRESENTATION

A 56-year-old male patient, Caucasian, was referred to the rheumatology outpatient clinic of a public tertiary hospital by a primary care physician, reporting recurrent episodes of low back pain, which had started

at the age of 35, with worsening of the pain after night and with rest, and improving with the use of non-steroidal anti-inflammatory drugs (NSAIDs). In association, the patient also reported joint stiffness in the morning, lasting more than 30 minutes. He reported no skin, gastrointestinal or ocular changes. He had hypertension as a comorbidity and a history of stroke and acute myocardial infarction. Physical examination (Figure 1) showed hyperkyphosis of the thoracic spine and straightening of the lumbar lordosis, with restricted mobility in all segments of the spine. He did not show phlogistic signs, pain on palpation of entheses or skin lesions. Metrics usually used for the specialized evaluation of patients with inflammatory low back pain were performed for the investigation of axial spondyloarthritis, with identification of lateral axial flexion of 3 cm, occipito-wall distance of 27 cm, reduced thoracic expansibility and measurement obtained in the modified Schober test of 0.5 cm (with all metrics outside normal limits). In his first consultation at the rheumatology outpatient clinic, in 2021, the patient had external radiographic examinations, carried out in the private system, which showed extensive involvement of the axial skeleton. Radiographs of the sacroiliac joints demonstrated diffuse osteopenia, reduction of joint spaces and bilateral sclerosis of these joints (Figure 2). Tomography of the spine performed in the same year revealed extensive calcification of the anterior longitudinal ligament along all segments of the spine (Figure 3), with the so-called “bamboo spine” appearance observed in the three-dimensional tomographic reconstruction (Figure 4), in addition to severe osteopenia and accentuation of thoracic kyphosis. Such radiographic findings, together with the clinical manifestations presented by the patient, corroborated the diagnosis of axial spondyloarthritis (ankylosing spondylitis).



Figure 1. Patient in lateral orthostatic position, with hyperkyphosis in the thoracic spine and rectification of the lumbar lordosis.



Figure 2. Plain radiography in Ferguson view demonstrating diffuse osteopenia, reduction of joint spaces and sclerosis of sacroiliac joints.



Figure 3. Computed tomography of the spine showing extensive calcification of the anterior longitudinal ligament throughout the spine.

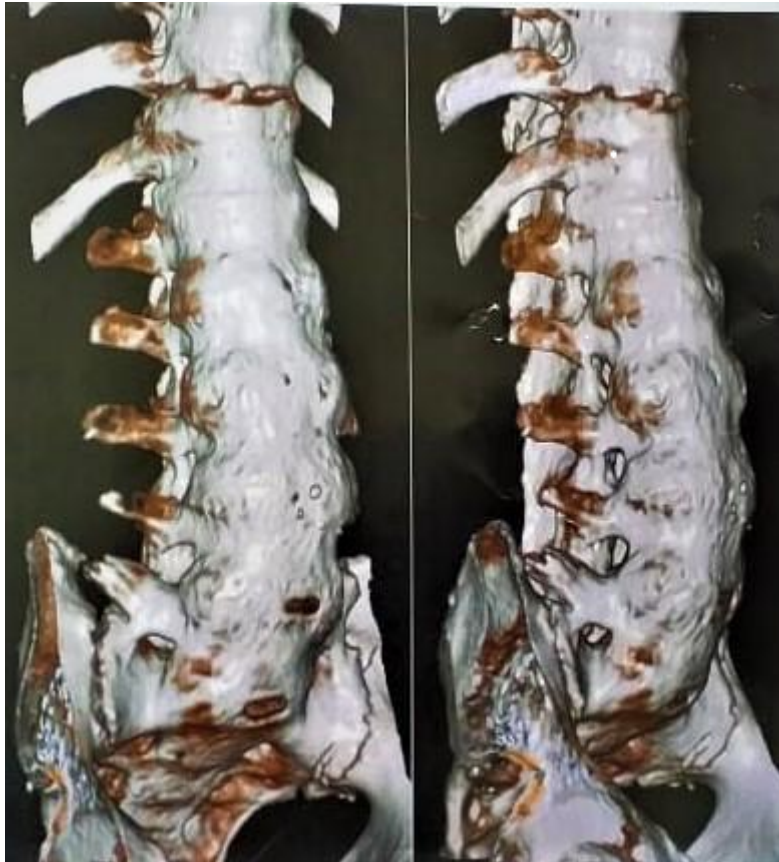


Figure 4. Three-dimensional reconstruction of tomographic findings, with better visualization of the “bamboo spine” appearance.

Fourteen years after the onset of symptoms, in 2010, the patient reported having sought an orthopedic doctor who, according to the manifestations presented, believed he was experiencing inflammatory low back pain, specifically axial spondyloarthritis, and advised the patient to seek a rheumatologist. However, due to social difficulties, the patient reported that he was unable to maintain follow-up with this specialist, only having had access to a public service specializing in rheumatology in 2021, 25 years after the onset of symptoms. A primary health care doctor had referred him to the rheumatology service available at a local tertiary public hospital, after identifying clinical manifestations suggestive of inflammatory low back pain.

As initial measures proposed by the rheumatology team, it was decided to prescribe analgesics for the pain complaints presented by the patient and, even with the disease already at an advanced stage, treatment with immunobiologicals was attempted. A medication requisition (LME) was then issued by the attending team for etanercept (an anti-TNF-alpha that can be used in the treatment of ankylosing spondylitis), with all the prophylaxis and examinations necessary for the patient being carried out at the start of using this medication. However, the patient, due to financial and mobility difficulties, was unable to purchase the medication from the Health Department. Faced with such social difficulties, the social assistance team was contacted with a report of this a problem. However, at the time of writing this article, the patient remained without the use of the immunobiological, having been unable to obtain it through the public health system. Throughout the follow-up by the rheumatology team, the patient continued to have the complaints manifested in the first consultations but reported improvement in pain after the use of the prescribed analgesics, and he was also under periodic follow-up with a multidisciplinary team (composed

of nutritionists, occupational therapists and physiotherapists) and with a family health team in the region in which he lived.

DISCUSSION

The guidelines for clinical practice recommend that the diagnostic approach to low back pain be guided by the type of low back pain presented, which may be caused by visceral disorders, specific diseases of the spine or radicular syndromes, or even be considered non-specific low back pain.^{1,5} In primary care, around 90% of patients have non-specific low back pain and in less than 1% of cases they are caused by visceral or spinal disorders.^{1,6,7} Vertebral fractures, inflammatory diseases, neoplasms and infections are some of the pathologies potentially causing low back pain.⁸

Carrying out strictly symptomatic therapy for low back pain, neglecting the correct investigation of its causes, can cause potentially serious and disabling diseases that cause low back pain to be underdiagnosed, leading to harmful consequences for the patient⁹ and severely affecting their prognosis.

In this context, in which serious illnesses may underlie a simple complaint of low back pain, the red flags should be considered in the initial clinical assessment of the patient, which correspond to signs and symptoms that, when present, suggest the existence of more serious pathologies that require greater clinical investigation.^{10,11} There is a wide variety of red flags that must be evaluated according to the underlying disease.¹⁰ The use of intravenous medications, presence of long-term vascular catheters, infection sites and recent fractures of the spine are some of those related to the presence of epidural abscesses, for example.^{10,12} Likewise, a history of cancer or the presence of clinical findings suggestive of neoplasms, in the context of low back pain, are some of the manifestations that remind us of the need to investigate neoplastic processes.^{10,13}

In a study carried out by Galliker and collaborators, an analysis was made of ten other studies that evaluated 84 red flags related to 12 different serious pathologies of the spine.¹⁰ In this study, it was found that the warning signs that had greater diagnostic accuracy in identification of serious diseases were suspicion and/or history of cancer, use of injectable drugs, presence of long-term vascular catheters, anemia, presence of infectious sites in the body, history of trauma with neurological deficits and bladder or suprapubic distention on physical examination.¹⁰

In primary care, one must also be aware of conditions suggestive of more severe pathologies, which require immediate intervention and which constitute indications for referring the patient to urgent and emergency services. These conditions requiring more emergency management include: the presence of suspected compression of the conus medullaris or cauda equina syndrome; progressive loss of strength; intense pain refractory to optimized clinical treatment; acute low back pain or neurological changes in a patient diagnosed with neoplasia affecting the spine; suspected infection; or even suspected fracture or dislocation associated with recent trauma.¹⁴

In the present case report, an extremely unfavorable evolution of axial spondyloarthritis is observed, a disease of the spine whose fundamental clinical finding is the presence of inflammatory low back pain.⁴ Inflammatory low back pain is characterized by the presence of chronic low back pain lasting more than three months, insidious, which begins before the age of 40 or 45, capable of causing nocturnal awakenings, which has physical activity as an improvement factor, progresses with morning stiffness for more than 30 minutes, showing furthermore a good therapeutic response to NSAIDs.^{4,15} Differentiating it from mechanical low back pain is very important, which can be carried out in primary care, based on the evaluation of the parameters described in the table extracted and adapted from a study carried out by Magrey et al.⁴ (Table 1).

Table 1. Characteristics that allow mechanical low back pain to be differentiated from inflammatory low back pain.

Variable	Inflammatory low back pain	Mechanical low back pain
Age of onset	Before 40 to 45 years old	Any age
Start speed	Insidious beginning	Variable, which can be acute
Chronicity	Duration of more than 3 months	Variable duration
Night pain	The pain usually worsens at night and can cause nighttime awakenings	Variable
Effect of physical activity or movement	The pain improves with physical activity, but not with rest, and is minimally altered by changes in position	The pain improves with rest and worsens with movement
Morning stiffness	It persists for more than 30 minutes and can be severe	It is short-lived
Response to NSAIDs (non-steroidal anti-inflammatory drugs)	Good response	Variable
Location and characteristics of pain	The pain can affect any area of the spine, does not radiate to the legs and does not cause numbness, burning or tingling.	The pain can occur in any area of the spine and can cause numbness, burning or tingling

Source: Magrey et al.⁴

For a correct definition of inflammatory low back pain, the criteria proposed by the 2nd edition of the Brazilian Society of Rheumatology, published in 2021, can also be used, which include: age at onset of low back pain less than 40 years, insidious onset of pain, lack of improvement in pain at rest and occurrence of pain at night. The presence of four of these five criteria makes it possible to define low back pain as having an inflammatory characteristic.¹⁶ The presence of chronic low back pain, starting before the age of 40 and with an inflammatory characteristic, constitutes a clinical condition indicative of the need to refer a patient treated in primary care to a rheumatologist.¹⁴

Axial spondyloarthropathies are diseases that mainly affect the axial skeleton, but can affect peripheral joints, entheses and organs such as the skin, eyes and intestine.⁴ Classification criteria for these diseases were established in 2009 by the Assessment of SpondyloArthritis international Society (ASAS).^{4,17} The criteria developed by ASAS consider the presence of chronic low back pain with inflammatory characteristics, the positivity of HLA-B27 (genetic marker related to the pathophysiology of these diseases), the presence of sacroiliitis at imaging, plain radiography and/or magnetic resonance imaging, and the existence of findings suggestive of spondyloarthritis, such as enthesitis, uveitis, dactylitis, psoriasis, inflammatory bowel disease, good response to NSAIDs, family history of spondyloarthritis and elevated C-reactive protein.^{4,17}

The patient in this study reported having presented manifestations of inflammatory low back pain for the first time in 1996. The characteristically inflammatory low back pain would have started with pain that, over the years, intensified, being associated with nighttime awakenings, prolonged morning stiffness and having as improvement factors movement and the use of NSAIDs, covering several of the criteria classification proposed by ASAS. Only in 2010, during a consultation with an orthopedic doctor, was the patient advised to seek rheumatological care. According to information provided by the patient himself, he had seen a rheumatologist in the private system, with whom he did not maintain follow-up because of lack of financial resources, undergoing a new rheumatological evaluation only in May 2021, when he had access to a care service specialized in rheumatology belonging to a public tertiary hospital located in the interior of the state of Minas Gerais. The late diagnosis, the delay in starting therapy and the lack of

clinical follow-up for several years contributed to the patient's condition progressing quite unfavorably, with deformities, movement restrictions and impairment of his functional capacity.

Spondyloarthropathies are diseases that are very underdiagnosed in clinical practice, with several factors contributing to this.⁴ Among them are the following: the high prevalence of low back pain that stands out;⁴ the absence of findings that are exclusive to these conditions on physical examination, especially in those patients with spondyloarthropathies at an early stage;⁴ the absence of serum or imaging biomarkers specific to these diseases; the gradual onset of clinical manifestations.^{4,18-21} the good response, with remission of symptoms, to the use of NSAIDs;^{4,19} and the difficulty in accessing a specialized rheumatological evaluation.^{4,19}

There are statistics that demonstrate that the average period between the onset of symptoms and the diagnosis of axial spondyloarthritis is five to seven years, which reveals a significant diagnostic delay for this condition.^{4,20-23} In the United States, this delay time is even longer, which could be up to 14 years, with the presentation of evidence that the referral of patients with this condition to a rheumatologist is a factor capable of substantially reducing this delay time,^{19,24,25} denoting the importance of access to these professionals and the initial identification of clinical findings suggestive of low back pain with an inflammatory characteristic while still in primary care, with adequate referral of these patients for a specialized rheumatological evaluation.

In Brazil, access to specialized rheumatology services is still limited, with an inequity in the distribution of rheumatologists across the country, with a greater concentration of them in capitals and large municipalities, especially in the South and Southeast regions, where 2/3 of these professionals are found.²⁶ Even though the patient in the reported case lived in a municipality with a public rheumatology care service available, there was a significant delay in his access to the medical care he needed.

In this case, it can be hypothesized that the delay in diagnosis and initiation of therapy can be attributed to multiple factors: the patient's initial lack of perception of the severity of his health condition, which often made him stop seeking medical care, and a lack of access to information and resources. We can, therefore, denote the importance of a detailed clinical approach to low back pain even in primary care, taking into account the red flags and the characterization of inflammatory low back pain, these steps being essential to early diagnosis and the institution of adequate therapy in the context of axial spondyloarthropathies.

CONCLUSIONS

In view of the role of primary care in offering health care based on comprehensive care and the prevention of injuries related to the most diverse pathologies, reaffirmed is the importance of medical assistance provided by this level of health care to patients with complaint of low back pain.

It is essential that even at this level of care, when faced with low back pain, a cautious clinical approach is adopted and guided by the search for findings that may be suggestive of severity or specific pathologies that require work-up and specialized evaluation, as is the case of inflammatory low back pain. These are relevant morbid conditions, which, when not recognized and treated appropriately, can often be associated with disastrous clinical outcomes, characterized by extreme functional limitation, as evidenced in the case reported here.

CONFLICT OF INTERESTS

Nothing to declare.

AUTHORS' CONTRIBUTIONS

GSK: Conceptualization, Methodology, Project administration, Supervision, Writing. LABR: Conceptualization, Methodology, Writing. MFAR: Conceptualization, Methodology, Writing. MSR: Conceptualization, Methodology, Writing. CRM: Conceptualization, Methodology, Writing.

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