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CASE REPORT

Lenalidomide and its impact on exanthematous reactions: a case report

Lenalidomida e seu impacto em reações exantemáticas: um relato de caso

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Abstract

Lenalidomide is a drug used mainly in the treatment of multiple myeloma and myelodysplastic syndrome. Despite its therapeutic benefits, lenalidomide can cause several adverse effects, including exanthematous reactions that can appear unexpectedly and cause discomfort to the patient. These skin reactions can be mild or severe and sometimes require the discontinuation of the lenalidomide treatment. In this case study, we will present the case of an 86-year-old man with a history of multiple myeloma who was on his fifth cycle of lenalidomide 10 mg and dexamethasone 20 mg, who was seen at the Health Center for constipation after two visits to the emergency department. During the consultation, the objective examination revealed a scattered maculopapular rash, probably secondary to lenalidomide. Timely assessment and guidance in these situations can be crucial to the patient's prognosis. Anamnesis is one of the fundamental pillars of medical diagnosis.

Keywords: Anamnesis. Adverse effects. Exanthema. Hypersensitivity. Late onset. Lenalidomide.

Resumo

A lenalidomida é um medicamento utilizado principalmente no tratamento do mieloma múltiplo e síndrome mielodisplásica. Apesar dos seus benefícios terapêuticos, a lenalidomida pode causar vários efeitos adversos, incluindo reações exantemáticas que podem aparecer de forma inesperada e causar desconforto ao paciente. Estas reações cutâneas podem ser leves ou graves e, em alguns casos, requererem a interrupção do tratamento com lenalidomida. Relatamos o caso de um homem de 86 anos, com antecedentes de mieloma múltiplo cumprindo o 5˚ ciclo de lenalidomida 10 mg e dexametasona 20 mg, avaliado no Centro de Saúde por quadro de obstipação após duas idas ao serviço de urgência. No decorrer da consulta, na realização do exame objetivo identificou-se um exantema maculo-papular disperso, provavelmente secundário à lenalidomida. A avaliação e orientação atempada nestas situações pode ser crucial no prognóstico do doente. A anamnese é um dos pilares fundamentais do diagnóstico médico.

Palavras-chave: Anamnese. Efeitos adversos. Exantema. Hipersensibilidade tardia. Lenalidomida.

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Introduction

Lenalidomide is a medication that belongs to the immunomodulatory agent's class, analogous to thalidomide, which has gained prominence in the treatment of different types of cancer, namely multiple myeloma and myelodysplastic syndrome. This medicine works by modulating the immune system and inhibiting tumor growth. It is often used in combination with other therapeutic agents to increase the effectiveness of the treatment.

In treating multiple myeloma, lenalidomide has been shown to be effective in reducing disease progression and increasing patient survival. In clinical studies, the combination of lenalidomide with dexamethasone or other agents, such as bortezomib, has been associated with significantly higher response rates, leading to an improvement in patients' quality of life and prognosis[1,2].

In the context of myelodysplastic syndrome, lenalidomide has been used to reduce the need for blood transfusions in patients with this condition, contributing to an improvement in anemia and patients' quality of life[3]. However, it is important to remember that lenalidomide can cause side effects such as fatigue, nausea, diarrhea, anemia, and thrombocytopenia, so monitoring patients during treatment is essential[1,3].

The prevalence of hypersensitivity reactions to lenalidomide varies between 6% and 43%, with a predominance of morbilliform, urticarial, and maculopapular rashes, which occur more frequently in the 1st month of treatment[4].

Due to its therapeutic importance and potential side effects, lenalidomide should be prescribed and monitored by specialized health professionals, who can adjust the dose and manage adverse reactions. Patients must follow medical advice and report any unusual or worrying symptoms during treatment, and proper clinical follow-up is crucial to ensure the efficacy and safety of the treatment.

Case report

An 86-year-old male patient diagnosed with multiple myeloma, on his 5th cycle of lenalidomide 10 mg and dexamethasone 20 mg, was evaluated at the Health Center for constipation after two visits to the emergency department, where he was treated with a laxative and discharged. During the consultation, the objective examination revealed a maculopapular rash scattered all over the body, sparing the face, with confluent plaques, which disappeared on digitation, as well as petechiae on the palate, not reported by the patient (Fig. 1).

In fact, when questioned, the patient confirmed the presence of skin lesions in the anterior region of the thighs, with a week's evolution, which gradually extended distally, involving the abdominal region, the back, and the anterior part of the trunk, without any other associated manifestations, namely pruritus, nausea or vomiting.

The patient was once again referred to the emergency department with the initial suspicion of Stevens-Johnson syndrome and was admitted to the Internal Medicine department for study and investigation.

During hospitalization, laboratory tests were conducted, revealing that only cytomegalovirus immunoglobulin M (IgM) tested positive. He was treated with oral prednisolone 20 mg for 3 days and oral hydroxyzine 25 mg for 5 days, with concomitant suspension of lenalidomide for 15 days. Clinically, he remained apyretic at all times, with a resolution of constipation and positive progression, with an almost total resolution of the skin lesions and limited to the distal third of the lower limbs at the time of discharge.

There are records in the literature of dose-dependent delayed reactions, the immunological mechanism of which is poorly understood[5,6].

After discussing the case with the hospital's Hematology department, the patient was discharged with a diagnosis of exanthema, probably secondary to lenalidomide, having restarted treatment with the drug in question at a dose of 5 mg/day 15 days after its suspension.

Discussion

Cutaneous delayed hypersensitivity reactions to lenalidomide represent a significant challenge in the treatment of patients with multiple myeloma and myelodysplastic syndrome[7]. Lenalidomide, an immunomodulatory drug used in these conditions, can trigger exaggerated immune responses in some individuals, leading to severe complications, although most eruptions are mild to moderate in severity.

Among the most feared manifestations of skin reactions is DRESS syndrome, a systemic and potentially fatal allergic reaction that can arise as a result of exposure to the drug[8]. Generalized skin rashes, hyperpyrexia, lymphadenopathy, and possible involvement of organs such as the liver, kidneys, and lungs characterize this syndrome.

Stevens-Johnson syndrome, another potential complication of hypersensitivity reactions to lenalidomide,

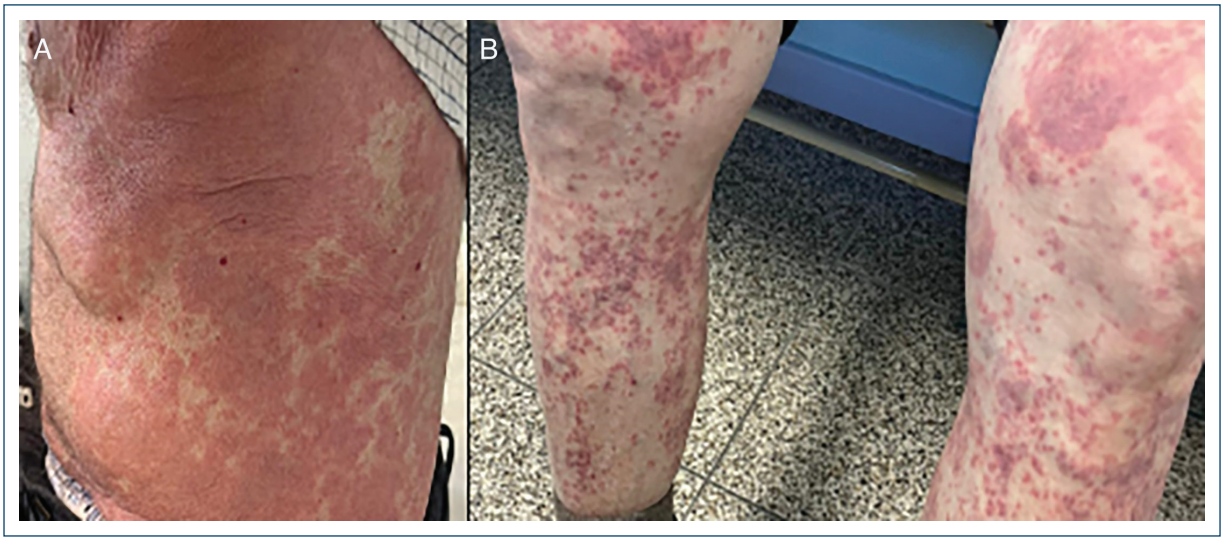

Figure 1. A and **B:** maculopapular rash scattered all over the body.

presents with painful lesions and severe skin rashes, with case reports of dose-dependent late-type reactions[9]. This condition can progress to Toxic Epidermal Necrolysis, which is the most severe form of the skin reaction, is characterized by extensive desquamation of the skin and mucous membranes.

The treatment of DRESS, Stevens-Johnson syndrome, and toxic epidermal necrolysis is complex and requires a multidisciplinary approach[10]. Immediate suspension of medication, the use of corticosteroids, and close patient monitoring are standard measures in managing these conditions.

Given the potential risks associated with late skin reactions to lenalidomide, desensitizing the patient to this medication can be an essential strategy to minimize the risk of adverse reactions. Desensitization involves the gradual and controlled administration of lenalidomide, allowing the patient's immune system to adapt to the presence of the drug[11].

Anticipation and early recognition of the signs and symptoms of adverse skin reactions to lenalidomide are essential for effective and safe intervention. Patient education about possible side effects and open communication with the healthcare team is essential to ensure patient safety and well-being during treatment with lenalidomide.

Anamnesis is one of the fundamental pillars of medical diagnosis. Through an excellent clinical interview, it is possible to gather all the necessary information about the patient's symptoms and background so that an accurate diagnosis and effective treatment can be carried out.

Conclusion

Due to the growing number of patients under the use of lenalidomide for the treatment of hematologic conditions, such as multiple myeloma, it is extremely important that healthcare professionals are alert to the possibility of severe cutaneous adverse reactions. Lenalidomide is known for its effectiveness in treating these diseases. However, patients who use it are subject to developing rashes, dermatitis, and other allergic skin reactions. It is, therefore, essential that the doctor closely monitors possible exanthematous reactions in patients being treated with lenalidomide and is prepared to discontinue the drug if adverse reactions occur. The safety and well-being of patients must be a priority in any medical treatment, and proper management of possible skin reactions is essential to ensure the success of treatment with lenalidomide. In fact, in this case, the reason for the consultation and its organized and objective exploration led to the accidental finding of the rash and its appropriate and rapid management. One of the pillars of general practice is also the holistic approach, which allows us to assess a patient as a whole and not just focus on the symptoms or pathologies they mention in the consultation.

Author contributions

C. Vieira-Maia: Main contributor for the conception, design, acquisition, analysis, and interpretation of data for the work. She also drafted the work, gave final approval

of the version to be published, and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. J.E. Ramos: He contributed to the conception and design of the work. He also helped draft the work, gave final approval of the version to be published, and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. A.C. Morgado: She contributed to the conception and design of the work. She also helped draft the work, gave final approval of the version to be published, and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Conflicts of interest

None.

Ethical considerations

Protection of humans and animals. The authors declare that no experiments involving humans or animals were conducted for this research.

Confidentiality, informed consent, and ethical approval. The authors have followed their institution's confidentiality protocols, obtained informed consent from patients, and received approval from the Ethics Committee. The SAGER guidelines were followed according to the nature of the study.

Declaration on the use of artificial intelligence. The authors declare that no generative artificial intelligence was used in the writing of this manuscript.

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