Successful desensitisation in a patient with lenalidomide hypersensitivity

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Introduction

Male patient diagnosed with multiple myeloma IgG lambda stage III-A / ISS III, bone disease and G2 neuropathy related to CYBORD chemotherapy. Treated with Lenalidomide 25mg in combination with dexamethasone, presented macular erythema, periocular edema, pruritus and fever, indicative of hypersensitivity to the drug. In order for this hypersensitivity reaction not to limit / prevent the continuation of the treatment most appropriate to the clinical situation, a desensitization to the drug is proposed by the oncologist in cooperation with the immunology team. The desensitization protocol was established in consonance with the pharmaceutical services. [1]; [2]

Objectives

MULTIPLE MYELOMA
Failure with CYBORD
(Bortezomib, cyclophosphamide, dexamethasone)

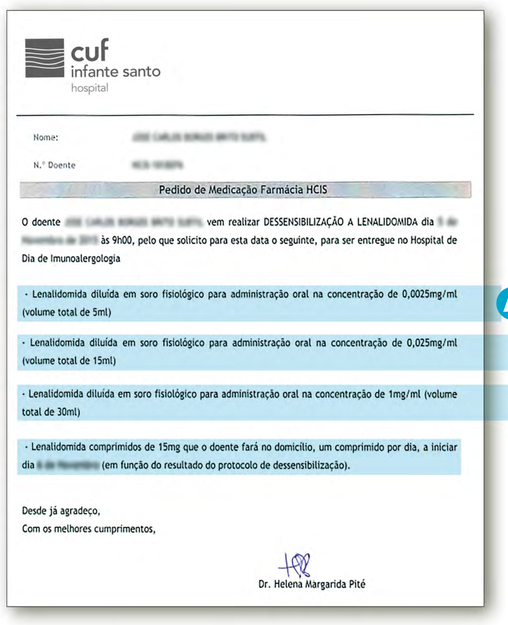
ORAL THERAPEUTIC
Option Lenalidomide
1st Cycle - Allergy

LENALIDOMIDE DESENSITIZATION
Desensitization followed
by the 21-Day Cycle

Clinical Improvement

Methods

Image 1 Desensitization Protocol



cuf infante santo hospital

Nome:

N.º Doente

Pedido de Medicação Farmácia HCIS

O doente vem realizar DESSENSIBILIZAÇÃO A LENALIDOMIDA dia às 9h00, pelo que solicito para esta data o seguinte, para ser entregue no Hospital de Dia de Imunoalergologia

- Lenalidomida diluída em soro fisiológico para administração oral na concentração de 0,0025mg/ml (volume total de 5ml) **A**
- Lenalidomida diluída em soro fisiológico para administração oral na concentração de 0,025mg/ml (volume total de 15ml) **B**
- Lenalidomida diluída em soro fisiológico para administração oral na concentração de 1mg/ml (volume total de 30ml) **C**
- Lenalidomida comprimidos de 15mg que o doente fará no domicílio, um comprimido por dia, a iniciar dia (em função do resultado do protocolo de dessensibilização).

Desde já agradeço,
Com os melhores cumprimentos,

Dr. Helena Margarida Pité

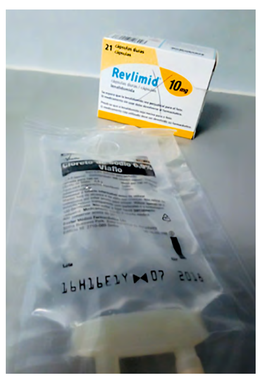
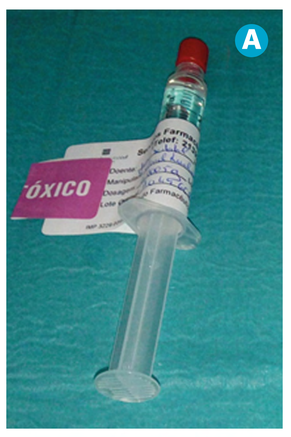
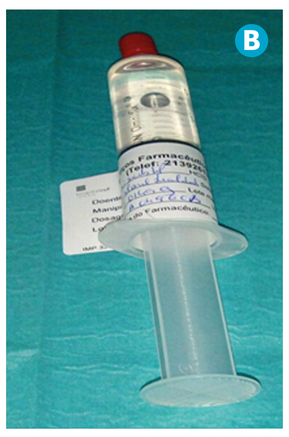


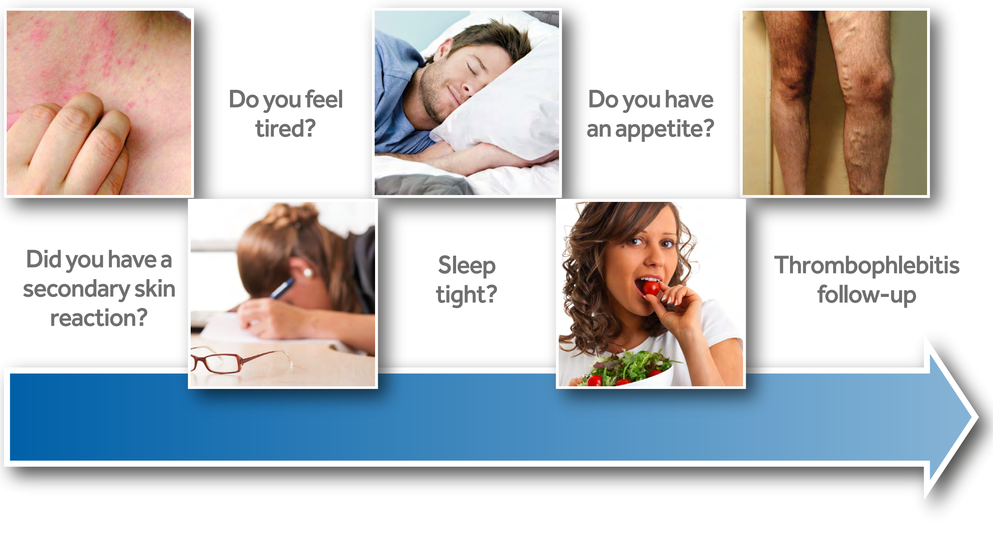
Image 2 Lenalidomide solutions for the desensitization protocol





Results

Scheme 1 Pharmacotherapeutic follow-up



- Favorable clinical evolution, with positive clinical and laboratory response;
- Stabilization of disease;
- Decreased analgesic use by stabilizing the stage of the disease.

Table 1 Recording of the first desensitization procedure

Time	Hours	Time to next administration time (Minutes)	Dilution	Volume (mL)	Dose (mG)	Cumulative dose	Reaction
0	13h35	60	0.0025mg/ml	0.1	0.00025	0.00025	
1h00	14h35	35	0.0025mg/ml	0.5	0.00125	0.0015	
1h35	15h10	20	0.025mg/ml	0.1	0.0025	0.004	
1h55	15h30	20	0.025mg/ml	0.5	0.0125	0.0165	
2h15	15h50	15	0.025mg/ml	1	0.025	0.0415	
2h30	16h05	15	0.025mg/ml	3	0.075	0.1165	
2h45	16h20	15	0.025mg/ml	5	0.125	0.2415	
3h00	16h35	15	1mg/ml	0.25	0.25	0.4915	
3h15	16h50	15	1mg/ml	0.5	0.5	0.9915	
3h30	17h05	15	1mg/ml	0.75	0.75	17 415	
3h45	17h20	15	1mg/ml	1	1	27 415	
4h00	17h35	15	1mg/ml	2.5	2.5	52 415	Erythema of the face (No pruritus or angioedema)
4h15	17h50	15	1mg/ml	5	5	102 415	Keeps face erythema
4h30	18h05	-	1mg/ml	15	15	252 415	Erythema of the face, but more tenuous than previously remains asymptomatic

Conclusion

- Advantage of the protocols of induction of temporary tolerance in cancer patients, allowing the continuation of the treatments with a lower possible risk of adverse reaction / hypersensitivity;
- Absence of disease progression after one year of the implementation of the desensitization protocol;
- Importance of a multidisciplinary team to establish a desensitisation protocol for Lenalidomide;
- **First protocol carried out in Portugal.**

REFERENCES

[1] Phillips, J.; Kujawa, J.: Davis – Lorton, M.; et al; Successful desensitization in a patient with Lenalidomide Hypersensitivity; American Journal of Hematology; 2007; pg 1030;

[2] Resumo das Caracteristicas do Medicamento, Lenalidomida, (http://www.ema.europa.eu/docs/pt_PT/document_library/EPAR_-_Product_Information/human/000717/WC500056018.pdf), 2016;

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