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Correspondence

Reduction of agalsidase beta infusion time in patients with fabry disease: A case series report and suggested protocol

To the Editor,

Fabry disease (FD) is an X-linked rare disorder caused by a deficiency in a lysosomal enzyme. Agalsidase beta (Agal-B) is an enzyme replacement therapy approved for FD patients [1]. The European Summary of Product Characteristics indicates that the initial infusion rate of Agal-B should be no more than 0.25 mg/min until the patient tolerance is stablished, then the infusion rate can be increased gradually [2]. In general practice Agal-B is administered in not less than 90 min. Our service has designed a protocol to substantially reduce the Agal-B infusion times. Patients receive the first 4–8 infusions at 0.25 mg/min and if well tolerated, the infusion time is reduced 30 min in every subsequent infusion until reaching 45 min. 1 g paracetamol is given as premedication. Patients are infused in the hospital and monitored by the nursing staff. This protocol has been applied to our 6 FD patients cohort treated with Agal-B (Fig. 1). In our cohort, only one female presented a dermatological Infusion Associated Reaction (IAR) after the 10th infusion at 45 min. This patient is atopic with a clinical history of several allergies. The IAR was managed with antihistamines and corticosteroid but it repeated in following infusions. Finally, a desensitization protocol was conducted (manuscript in preparation). The only male in our cohort, with a truncating mutation, had a good tolerance. According to the Fabry Registry, males with anti-Agal-B antibodies are more prone to IARs than seronegative patients: 33% vs. 8%, while this difference is 16% vs 10% in women [3]. Although it is necessary to validate this protocol with more classic male patients, Agal-B can be administered in a shorter infusion time than the usual clinical practice. This protocol could help optimize health system resources and improve patient's quality of life.

Declaration of Competing Interest

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The rest of authors have no competing interests.

Gender	Age	Weight Kg	Naive	Mutation	C / R / N involvement	IAR	# of infusions before time reduction	# months of infusions at 45 minutes
Female	56	61	Yes	p.S238N	+++ / + / ++	NO	8	30
Female	70	65	Yes	p. K185Sfs*7	+++ / - / +	NO	8	36
Female	30	85	Yes	p.S238N	- / + / +++	NO	8	27
Female	32	70	Yes	p.L131Q	- / + / ++	YES	8	(*)
Male	40	75	Yes	p. K185Sfs*7	++ / + /++	NO	4	20
Female	63	80	No	p.Tyr216Leu fs*16	+++ / +++/ +++	NO	4	20

Fig. 1. Baseline characteristics of patients receiving agalsidase beta 1.0 mg/kg body weight and infusion information. C: Cardiac; IAR: Infusion Associated Reactions; N: Neurological; R: Renal. (*) This patient had an IAR and is not being infused at 45 minutes at the time, but in longer times.

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References

[1] A. Ortiz, D.P. Germain, R.J. Desnick, J. Politei, M. Mauer, A. Burlina, et al., Fabry disease revisited: Management and treatment recommendations for adult patients, Mol. Genet. Metab. 123 (4) (2018 Apr) 416–427.

[2] Fabrazyme (Agalsidase Beta) European Summary of Product Characteristics. https://www.ema.europa.eu/en/documents/product-information/fabrazyme-epar-product-information_es.pdf.

[3] W.R. Wilcox, G.E. Linthorst, D.P. Germain, U. Feldt-Rasmussen, S. Waldek, S. M. Richards, et al., Anti-α-galactosidase A antibody response to agalsidase beta treatment: data from the Fabry Registry, Mol. Genet. Metab. 105 (3) (2012 Mar) 443–449.

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