explained to the patient, giving them enough time to evaluate this option and be evaluated.

Ethical considerations

The authors declare that the protocols established in their place of work have been followed when accessing the patient's clinical records to create this publication for dissemination to the scientific community.

Funding

This study received no specific funding from public, private or non-profit organisations.

Conflicts of interest

The authors declare that they have no conflicts of interest.

REFERENCES

1. Amenabar JJ, Cléries M, Vázquez C, Alonso R, Lorenzo V, Magaz A, et al. Organización de los registros autonómicos de enfermos renales en tratamiento sustitutivo en España. Nefrología. 2000;20 Supl. 5:17–22.
2. Arrieta J. Evaluación económica del tratamiento sustitutivo renal (hemodiálisis, diálisis peritoneal y trasplante) en España. Nefrología. 2010;1 Supl Ext 1:37–47.
3. Wong G, Howard K, Chapman JR, Chadban S, Cross N, Tong A, et al. Comparative survival and economic benefits of deceased donor kidney transplantation and dialysis in people with varying ages and comorbidities. PLoS One. 2012;7:e29591.
4. Wolfe RA, Ashby VB, Milford EL, Ojo AO, Ettenger RE, Agodoa LY, et al. Comparison of mortality in all patients on dialysis, patients on dialysis awaiting transplantation, and recipients of a first cadaveric transplant. N Engl J Med. 1999;341:1725–30.
5. Axelrod DA, Schnitzler MA, Xiao H, Irish W, Tuttle-Newhall E, Chang SH, et al. An economic assessment of contemporary kidney transplant practice. Am J Transplant. 2018;18:1168–76.
6. Organización Nacional de Trasplantes. Plan Estratégico en Donación y Trasplante de Órganos 2018-2022. Versión final septiembre 2018. Available from: http://www.ont.es/infesp/Documents/PLAN%20ESTRAT%C3%89GICO%20DONACI%C3%93N%20Y%20TRASPLANTE%20DE%20%C3%93RGANOS%202018-2022.pdf.
7. Grupo ORD. Estudio epidemiológico de 7.316 pacientes en hemodiálisis tratados en las clínicas FME de España, con los datos obtenidos mediante la base de datos EuCliD®: resultados de los años 2009-2010. Nefrologia. 2012;32:701–866.
8. Segev DL, Muzaale AD, Caffo BS, Mehta SH, Singer AL, Taranto SE, et al. Perioperative mortality and long-term survival following live kidney donation. JAMA. 2010;303:959–66.
9. Council of Europe, European Committee (partial agreement) on organ transplantation. International figures on donation and transplantation 2018. Newsletter Transplant, EDQM, Volume 25 2020.

Miguel Ángel González Martínez*, María Ramírez Gómez, Vanesa García Chumillas

Hospital Universitario Clínico San Cecilio, Granada, Spain

* *Corresponding author.*
E-mail address: miguel.agm1505@gmail.com
(M.Á. González Martínez).

https://doi.org/10.1016/j.nefroe.2022.12.004

Barttin in English, and in Spanish?

Barttin en inglés, ¿y en español?

Dear Editor,

Between June 1996 and October 1997, Simon et al., using molecular genetic techniques, located three genes whose mutations give rise to the first three known variants of Bartter syndrome. The proteins encoded by these genes are the bumetanide- and furosemide-sensitive cotransporter NKCC2 (Bartter syndrome type I), the ATP-sensitive potassium channel ROMK that recycles potassium into the tubular lumen (Bartter syndrome type II) and the renal chloride channel ClC-Kb that extracts Cl– on the basolateral side of the cell (Bartter syndrome type III). In 1995, Landau et al. described five children from a large consanguineous Bedouin family with Bartter syndrome associated with sensorineural deafness[1]; this association was termed type IV Bartter syndrome. In 2011, Birkenhäger et al. described ten families with this condition with seven different mutations in a newly identified gene: the *BSND* gene. The protein encoded by this gene was named

DOI of original article:
https://doi.org/10.1016/j.nefro.2023.02.003.

barttin after the American endocrinologist Frederic Bartter (1914–1984), discoverer of the inappropriate ADH secretion syndrome that today bears his name. The barttin protein colocalizes with ClC-Ka and ClC-Kb channels in the basolateral membrane of the renal tubules of the thin and thick ascending branches of the loop of Henle and in cells of the vascular stria of the inner ear,[2,3] and functions as an activator of ClC-K chloride channels. The consequence of homozygous mutations in the BSND gene is that the Cl ion– cannot leave the cell and cannot be reabsorbed into the renal medulla.

When writing or publishing about Bartter's syndrome in Spanish, it is logical that the nephrologist hesitates or have doubts when referring to this protein. Given our current overwhelming exposure to English-language publications, the first impulse - as can be seen in numerous articles published in Spanish - is to keep the English spelling and also write 'barttin' (or even to capitalize 'Barttin') in Spanish. Since barttin is a protein, however, Spanish usage would append the ending *-ina* and a lower case, since it is now a common noun of from a proper name, and not a proper noun.

What about the double *t* in Spanish? Although it would not be entirely incorrect to keep it, the truth is that in our tradition of scientific nomenclature it is customary to simplify it: **bartina** is therefore, in our opinion, the preferable form in Spanish. Many examples can be exposed by way of analogy in defense of this simplification of the double *t*: *ataque* (attack), *atención* (attention), *atracción* (attraction), comité (committee), *gueto* (ghetto), *glottis* (glottis), *materia* (matter), *pipette* (pipette), *postraumatático* (posttraumatic), *psittacosis* (psittacosis), *sagital* (sagittal), *espaguetis* (spaghetti), *tatuaje* (tattoo). The fact that in this case the term derives from a proper name is no obstacle to simplifying the double consonant: the unit of power in the international system is called '*vatio*' in Spanish (with a single *t*) although it derives from the surname of the Scottish inventor James Watt; *boicot* (boycott) takes its name from the English land agent Charles C. Boycott; and the chemical element that takes its name from the Swedish town of Ytterby is written in English as ytterbium (with two *t*'s), whereas in Spanish we call it '*iterbio*' (with one *t*). The same simplification from English to Spanish applies to the following toponyms, which are in fact proper nouns: the Indian city of Calcutta (in Spanish, *Calcuta*, with only one *t*), the Dutch city of Rotterdam (in Spanish, *Roterdam* or *Róterdam*, with only one *t*) and the capital of Malta, Valletta in English (but *La Valeta* in Spanish, also with only one *t*).

This key orthographic difference between the Spanish and English languages is explained by the fact that our orthography is above all phonetic (we write words to reflect the way they are pronounced), while English is above all etymological (they write words to reflect the original spelling in their source language). Thus, they write hypothalamus and hippocampus (the former with *y* and a single *p*, the latter with *i* and double *p*) to reflect that these formants come from different Greek words, whereas we write '*hipotálamo*' and '*hipocampo*' the same because we pronounce both formants the same.

In short, then, B̈arttin gene mutations cause Bartter syndrome type IV̈in English, but L̈as mutaciones del gen de la bartina causan el síndrome de Bartter de tipo IV̈in Spanish, with a single *t* in '*bartina*', but with many more prepositions and articles. Each language has its own way of expressing the world around us: this is the linguistic diversity of our planet, which, like its biodiversity, is worth nurturing.

REFERENCES

1. Landau D, Shalev H, Ohaly M, Carmi R. Infantile variant of Bartter syndrome and sensorineural deafness: a new autosomal recessive disorder. Am J Med Genet. 1995;59:454–9, http://dx.doi.org/10.1002/ajmg.1320590411.
2. Estévez R, Boettger T, Stein V, Birkenhäger R, Otto E, Hildebrandt F, et al. Barttin is a Cl– channel β-subunit crucial for renal Cl– reabsorption and inner ear K^+ secretion. Nature. 2001;414:558–61, http://dx.doi.org/10.1038/35107099.
3. Waldegger S, Jeck N, Barth P, Peters M, Vitzthum H, Wolf K, et al. Increases surface expression and changes current properties of ClC-K channels. Pflugers Arch. 2002;444:411–8, http://dx.doi.org/10.1007/s00424-002-0819-8.

Víctor M. García Nieto[a,*], Fernando A. Navarro[b]

[a] *Sección de Nefrología Pediátrica, Hospital Nuestra Señora de Candelaria, Santa Cruz de Tenerife, Coordinador del Grupo de Historia de la Pediatría de la Asociación Española de Pediatría, Spain*

[b] *Médico de palabras, Cabrerizos, Salamanca, Spain*

[*] *Corresponding author.*
E-mail addresses: vgarcianieto@gmail.com (V.M.G. Nieto), fernando.a.navarro@telefonica.net (F.A. Navarro).

https://doi.org/10.1016/j.nefroe.2023.02.009