

A DESCRIPTIVE STUDY OF SERUM VALPROIC ACID LEVELS IN PSYCHIATRIC PATIENTS IN A TERTIARY HOSPITAL

Mosquera Ferrer S. 1, Lozano Martín D. 1, Iglesias Hernangómez T. 1, Rodríguez Quijano A. 1, Galán Caballero L. 1, Lahoz Hormigos T. 1, Díaz Rengifo I. 1, Bermejo Martínez P. 1, Lara Gonzalez N. 1, Foncubierta Gutiérrez C. 2, Ortega de Heredia M. 2, Terleira Fernández A. 1

1 Hospital Clínico San Carlos. Clinical Pharmacology Service, Madrid, Spain

2 Hospital Clínico San Carlos. Clinical Analysis Service, Madrid, Spain

INTRODUCTION

Valproic acid is an antiepileptic drug whose pharmacokinetics require closely monitoring serum levels [1]. There is limited evidence establishing a dosage and therapeutic range for this drug in the psychiatric population. Due to the requirement of a correct treatment adjustment to achieve an individualized, safe, and effective prescription, it is essential to continue collecting information to better characterize the relationship between dose and serum concentration.

METHODS

The source of information and study population were the serum levels of valproic acid requested from psychiatric patients evaluated by the Hospital Clínico San Carlos (HCSC) Clinical Analysis Service, informed by the Clinical Pharmacology Service, from June 22nd, 2021, to October 21st, 2022. These were analyzed with demographic characteristics, drug administration, and clinical control.

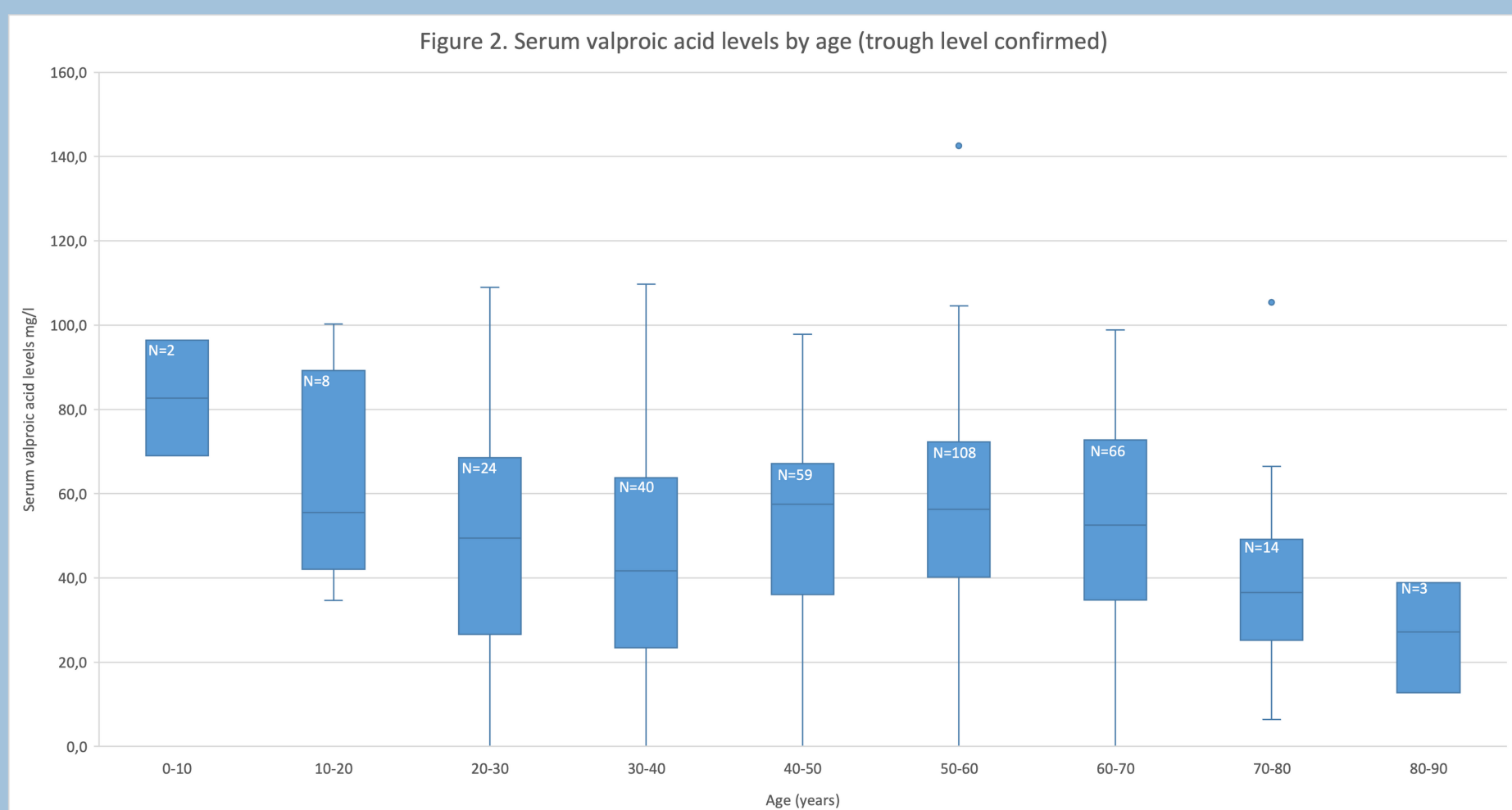
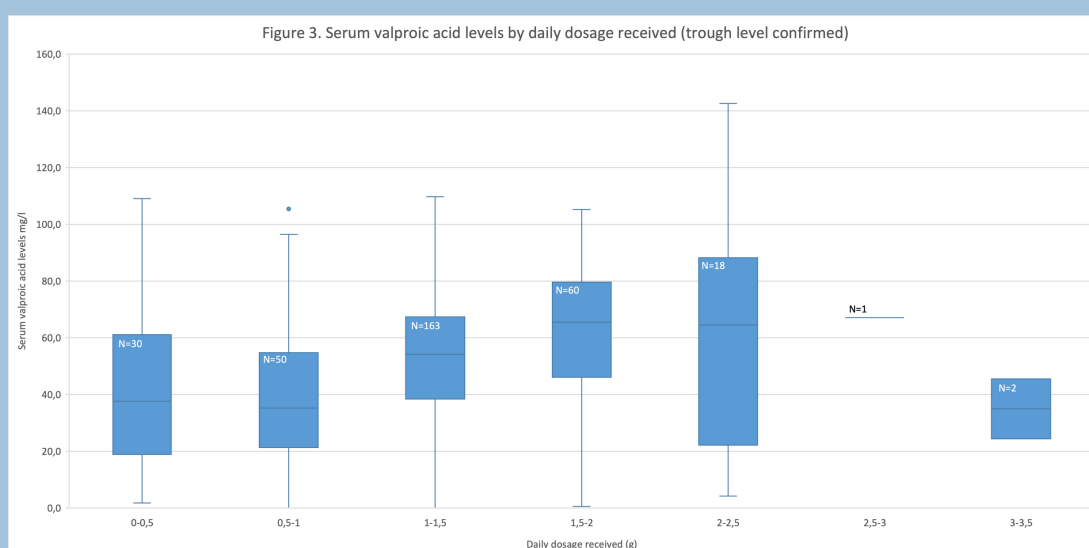
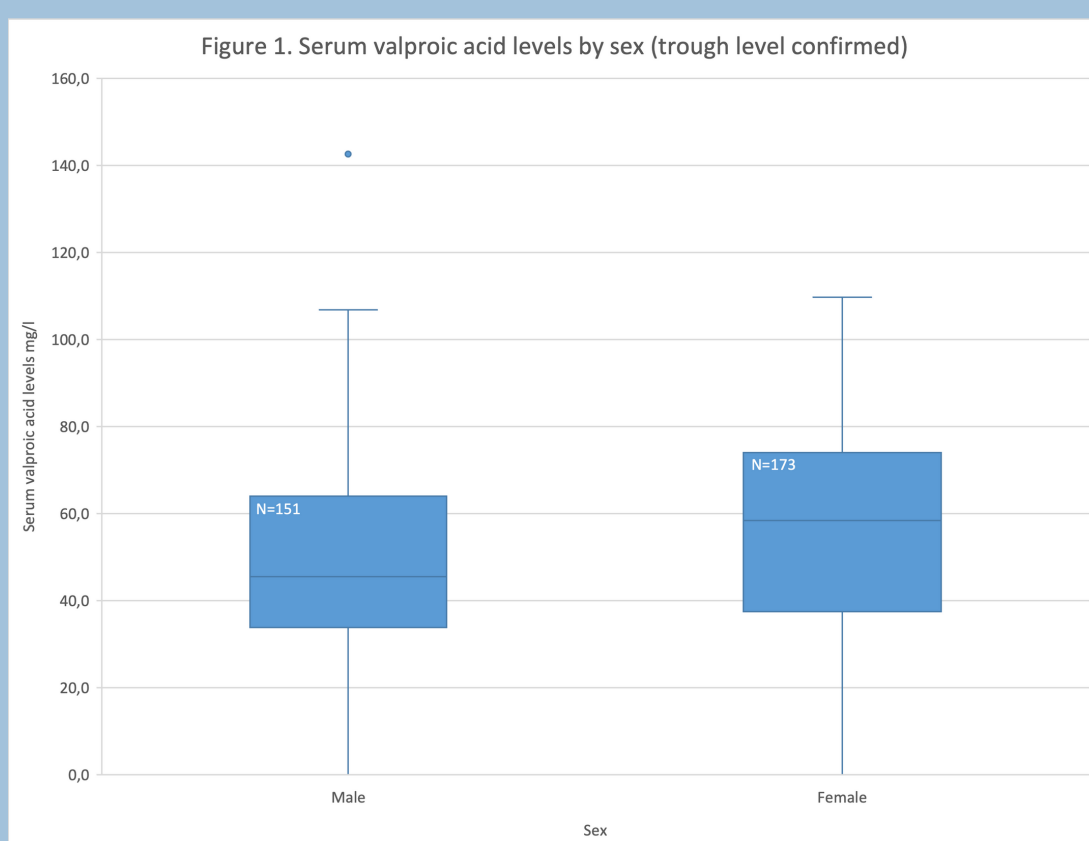
RESULTS

Thus, 748 results met the inclusion criteria, wherein 414 (55.35%) were women and 334 (44.65%) were male, with a mean age of 51.60 (SD=15.48) years.

The most common dose received was 500mg twice daily, primarily by oral route (N=616; 82.35%). Most patients received the treatment chronically, starting more than one month ago (N=331; 44.25%), and the most frequent diagnosis was bipolar and other related disorders (CIE 10 F30 to F31, F34) (N= 328; 43.85%), followed by the schizophrenia spectrum and other psychotic disorders (CIE10 F20 to F29) (N=85; 11.36%). Among the petitions, 14 (1.87%) indicated suspicion of toxicity, presenting a mean level of valproic acid of 63.72 mg/l (SD=35.18).

Extraction was adequate, extracted immediately before the next dose (trough), in 324 patients (43.32%). These extractions showed a mean serum valproic acid level of 52.32 g/l (SD=25.48), in line with the usual values in the literature.

Figure 1 shows how valproic acid levels were distributed by sex. Figure 2 describes serum concentrations according to the age of the patients. The relation between patients' daily dose and the valproic acid level is shown in Figure 3. All when the extraction was correct.



REFERENCES

[1] Patsalos PN, Berry DJ, Bourgeois BF, et al. Antiepileptic drugs—best practice guidelines for therapeutic drug monitoring: a position paper by the subcommission on therapeutic drug monitoring, ILAE Commission on Therapeutic Strategies. *Epilepsia*.2008;49(7):1239-1276.doi:10.1111/j.1528-1167.2008.01561.x

CONCLUSIONS

This study found adequate serum valproic acid levels in psychiatric patients measured in the HCSC, Madrid (Spain). Bipolar disorder was the most frequent diagnosis, followed by the schizophrenia spectrum. These findings are similar to the literature and may provide helpful information for this population's safe and effective prescription of valproic acid.