Use of Intravenous Immunoglobulin: *By the book?*

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4CPS-261

INTRODUCTION

Intravenous immunoglobulin (IVIG) is a blood product used for replacement therapy and immunomodulation in various conditions[1]. Its use is usually restricted to situations with clinical benefit and established evidence, due to the drug's production method and high economic value [2]. Recently, the Portuguese National Pharmacy and Therapeutics Committee (NPTC) released guidance for a more evidence-based IVIG use approach.

OBJECTIVES

- Characterize the IVIG prescription profile in the institution;
- Assess if IVIG is prescribed and used in accordance with the guidance No.8 of May 2020 from NPTC and the National Medicines Formulary (NMF);
- Evaluate the impact of IVIG consumption on the hospital's financial budget.

METHODS

IVIG prescriptions
All IVIG prescriptions
Jan 2018 – May 2020

Register
Registered:
- Indications
- Doses
- Infusion Rates
- Adverse Reactions

Assess accordance w/ guidance and NMF
Indications were classified as either *on* or *off-label*, regarding their inclusion in the guidance and as per the NMF.

Economic Impact
Calculated from the average price, through the SGICM-GLINTT pharmacy software.

RESULTS

Were included 131 IVIG prescriptions, of which 121 (92,4%) were included in the NMF. The most prevalent indications are Chronic Inflammatory Demyelinating Polyradiculopathy (n= 51; 39%) and MyD88 deficiency (n= 41; 31%) (Figure 1).
Regarding the guidance, 60.3% are replacement therapy, 31.2% are immunomodulation cases and the remaining 8.5% are off-label (of these, 64% have probable benefit) (Figure 2).
Doses and IR are as indicated. There are no records of AR.
IVIG accounts for 1.21% of the institution's total medication expenses.

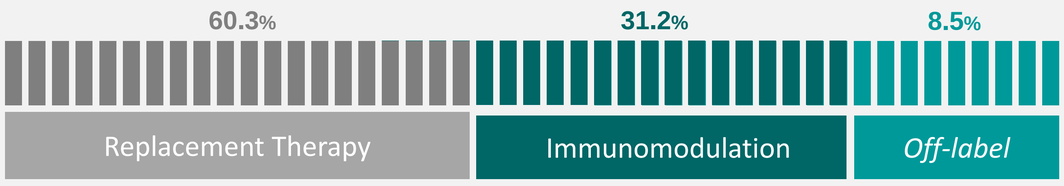

Figure 2 – Indications accordance with the Guidance

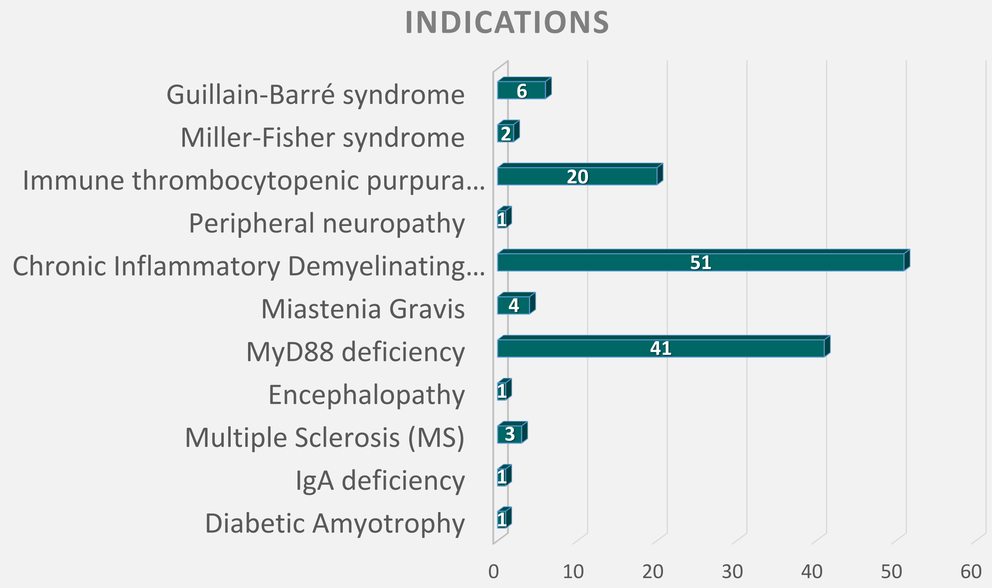

Figure 1 – IVIG Indications

CONCLUSIONS/DISCUSSION

In this study, IVIG is mostly used in the approved indications. Doses and infusion rates are within the recommended range and no adverse reactions have been reported, suggesting that the administrations have been well tolerated.

Off-label use, although characterized by limited expression and including indications with probable benefit, also included indications not mentioned in the guidance.

We found that in our hospital IVIG prescriptions showed a low level of compliance with the NPTC guidance, especially regarding *off-label* use that needs prior approval by the Pharmacy and Therapeutics Committee (besides having established clinical-benefit and used routinely in daily practice). In order to get a more evidence-based approach, an institutional IVIG protocol should be developed and implemented. We also suggest the creation of a Blood Products Advisory Committee to review and evaluate prescriptions, *off-label* requests and other subjects concerning the safety and appropriate use of these products.
The pharmacist has a key role by taking part in the aforementioned committiees, suggesting possible alternative treatment options and also assuring that prior approval has been granted.

Locally, the average annual expenses with IVIG account for 1.21% of our total drug expenses, a value way below the national average (2.83%)[3]. This may be due to the smaller size and complexity of the hospital and slight *off-label* use.

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