



Be **DIF**ferent

Not all patients are alike

GRIFOLS

Flebogamma[®] DIF
Human Normal
Immunoglobulin (IVIg)

50 mg/ml

100 mg/ml



Not all patients are alike; and not all IVIGs are alike either

Generally, IG infusions are well tolerated¹; however, there are **risk factors** known to be associated with the major complications or adverse effects of IVIG².

Risk factors

IVIg infusion considerations



- Advanced age
- Hypertension
- Coronary artery disease
- Diabetes mellitus
- Metabolic syndrome
- Hormone replacement therapy
- History of stroke
- Hemolysis
- History of transient ischemic attack
- Immobility
- History of deep vein thrombosis
- History of bypass surgery

- Low concentration product
- Slow infusion rate
- Reduced sodium content
- Ensure the patient is well hydrated prior to infusion
- Spread the dose over more sessions
- Sucrose-free preparation
- Low anti-A/B preparation



- Pre-existing renal insufficiency
- Concomitant nephrotoxic drugs
- Volume depletion
- Paraproteinaemia
- Advanced age (>65)
- Diabetes mellitus
- Sepsis

- Low concentration product
- Sucrose-free preparation
- Reduced rate of infusion
- Total IVIG dose should be reduced and spread over several days



- History of frequent headaches, migraine, aseptic meningitis

- Low concentration product
- Slow infusion rate
- Administer IVIG with a space of 1 or 2 days between each infusion
- Consider anti-migraine medications before and during IVIG infusion

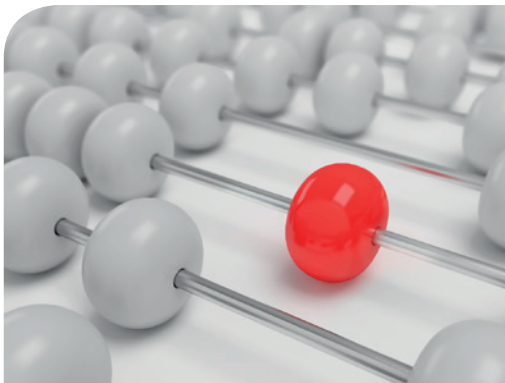
Slow infusion rate of low IVIG concentration products and hydration, especially in high-risk patients, may **reduce the risk of renal failure, thromboembolic events, and aseptic meningitis**³



Patients do not equally tolerate different IVIG preparations



IVIG preparations are **not** all **equally well tolerated**:⁴



❖ Not all IVIGs are the same¹

IVIGs must be considered individual therapies, not generic drugs.⁵



❖ IVIG products are not interchangeable⁵

Different manufacturing processes make nonequivalent plasma-derived products and the final composition of IVIG products has resulted in varying tolerability profiles.¹



❖ Product changes may improve adverse event profiles⁵

As the manufacture of the individual products is different, individual patients may experience adverse events in response to some, but not other products.

Flebogamma® DIF may be the appropriate choice

According to a **recent prospective study**, including immunodeficiency, autoimmune disease and bone marrow transplant (BMT) patients, both **Flebogamma® DIF 5% and 10% were well tolerated**⁶

	Flebogamma® DIF 5%	Flebogamma® DIF 10%
Patients	34	32
Patients with ADRs* (potentially treatment-related AEs)	3 (8.82%)	9 (28.13%)
Infusions	135	130
Infusions with ADRs (potentially treatment-related AEs)	3 (2.22%)	24 (18.46%)

*ADRs: potential related adverse events. All ADRs were defined as non-severe

- ❖ In Flebogamma® DIF 5%, frequency of infusions with potentially **treatment-related AEs was low (2.2%)** and **no headaches** were reported⁶
- ❖ In Flebogamma® DIF 10%, percentage and type of **AEs** reported in this study were consistent with other **10% IVIGs**⁶
- ❖ Flebogamma® DIF 5% may be an **appropriate choice for** many of **your patients** including those **who cannot tolerate a 10% IVIG**

*In patients with risk factors,
tolerability is particularly important*



What makes **Flebogamma® DIF** different?

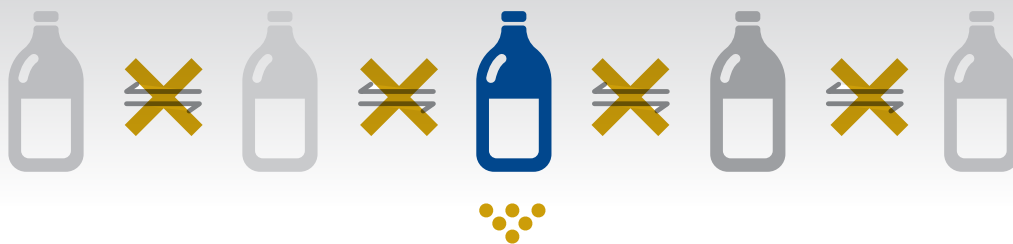
- ❖ Uses **sorbitol as stabilizer** that does not elevate blood glucose or insulin levels⁷ (no sucrose, no maltose and no glucose)
- ❖ Undergoes pasteurization, a safety step with the capacity to inactivate clotting factors, which **helps limit the risk of thromboembolic events**⁸
- ❖ Contains **trace amounts of sodium** (<3.2 mmol/l)⁹
- ❖ Contains **trace amounts of IgA**^{*10}, being one of the IVIGs with the lowest concentrations of IgA⁹
- ❖ **Osmolality is within the physiological range** (240-370 mOsm/kg)^{11,12}

*Mean values (mg/ml):

Flebogamma® DIF 5%: 0.0031±0.0001, n=253.

Flebogamma® DIF 10%: 0.0031±0.0006, n=127.

IVIG products are not interchangeable⁵



**Flebogamma® DIF is well tolerated and shows
a low frequency of AEs**⁶



See the SPC/package insert inside

Flebogamma[®] DIF

Human Normal Immunoglobulin (IVIg)

50 mg/ml

100 mg/ml

REFERENCES: **1.** Cherin P, et al. Management of adverse events in the treatment of patients with immunoglobulin therapy: A review of evidence. *Autoimmunity Reviews* 2016;15:71-81. **2.** Gürçan HM, et al. Information for healthcare providers on general features of IGIV with emphasis on differences between commercially available products. *Autoimmunity Reviews* 2010;5:53-559. **3.** Orbach H, et al. Intravenous Immunoglobulin. Adverse Effects and Safe Administration. *Allergy & Immunology* 2005; 29(3):173-84. **4.** Feldmeyer L, et al. Not All Intravenous Immunoglobulin Preparations are Equally Well Tolerated. *Acta Derm Venereol* 2010; 90: 494-497. **5.** American Academy of Allergy Asthma & Immunology (AAAAA). Eight guiding principles for effective use of IVIG for patients with primary immunodeficiency. 2011. Available at: <http://www.aaaaa.org/Aaaaai/media/MediaLibrary/PDF%20Documents/Practice%20Resources/IVIG-guiding-principles.pdf>. Accessed November 24, 2017. **6.** Alsina L et al. Surveillance study on the tolerability and safety of Flebogamma[®] DIF (10% and 5% intravenous immunoglobulin) in adult and paediatric patients. *Pharma Res Per* 2017;5(5):e00345. **7.** Ochs HD, Siegel J. Stabilizers used in intravenous immunoglobulin products: a comparative review. *Pharmacy Practice News. Special Reports*. August 2010. **8.** Jose M, Marzo N, Bono M, et al. Pasteurization inactivates clotting enzymes during Flebogamma[®] and Flebogamma[®] DIF production. *WebmedCentral Immunotherapy*. 2010;1(12):WMC001425. **9.** Siegel J. Immune globulins: therapeutic, pharmaceutical, cost and administration considerations. *Pharmacy Practice News. Special Edition, Educational Reviews*. January 2014. **10.** Data on file. Instituto Grifols, S.A. **11.** FDA prescribing information for Flebogamma[®] 5% DIF. **12.** FDA prescribing information for Flebogamma[®] 10% DIF.

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