

# IVIG Therapeutic Cheat Sheet

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## TRADE NAME

- > Octagam 10%
- > Gamunex-C
- > Gammaplex 5% & 10%
- > Carimune NF
- > Flebogamma DIF 5% & 10 %
- > Gammagard S/D
- > Panzyg
- > Privigen

## MECHANISM OF ACTION

- > The mechanisms of action of IVIG can be broadly categorized into three categories: (1) replacement therapy in immunodeficiencies, (2) immunomodulation and anti-inflammatory, and (3) hyperimmune therapy.<sup>1</sup>
- > The mechanism of action of IVIG in autoimmune conditions is still not well understood and different mechanisms may dominate in different diseases.<sup>1</sup>
- > IVIG binds and neutralizes circulating autoantibodies, decreases production of antibodies, neutralizes C3a and C5a anaphylatoxins, inhibits activation of monocytes and macrophages, inhibits dendritic cell maturation, decreases Th1 and Th17 cells, increases regulatory T cells, and decreases keratinocyte apoptosis.<sup>1-3</sup>

## FDA-APPROVED USE

- > Dermatomyositis<sup>4</sup>
- > Kawasaki disease<sup>5</sup>
- > Immune Thrombocytopenic Purpura (ITP)<sup>4,5</sup>
- > Graft-versus-host disease

## OFF-LABEL DERMATOLOGIC USES<sup>3,6,7</sup>

- > Autoimmune blistering disorders (pemphigus foliaceus, bullous pemphigoid, mucous membrane pemphigoid, epidermolysis bullosa acquisita)
- > Scleromyxedema
- > Pretibial myxoedema
- > Systemic vasculitis
- > Systemic lupus erythematosus
- > SJS/TEN
- > Mixed connective tissue disorder
- > Systemic sclerosis
- > Pyoderma gangrenosus
- > Atopic dermatitis
- > Chronic urticaria
- > Scleroderma
- > Kaposi sarcoma
- > Necrotizing fasciitis
- > Lyme Disease
- > Varicella

## DOSING (INTRAVENOUS)

- > Dermatomyositis (Octagam 10%)<sup>4</sup>
  - > 2g/kg divided in equal doses given over 2-5 consecutive days every 4 weeks
  - > Initial infusion rate: 1.0 mg/kg/min (0.01 ml/kg/min)
  - > Maintenance infusion rate: up to 4.0 mg/kg/min (0.04 ml/kg/min)
- > Autoimmune blistering disorders
  - > 2g/kg divided in equal doses given over 2-5 consecutive days every 4 weeks for 3-6 months based on patient's recovery<sup>3</sup>

## > SJS

- > Studies report decreased mortality rates at doses >2 g/kg<sup>3</sup>

## > TEN

- > Studies report decreased mortality rates at doses >3 g/kg divided into 3-5 days<sup>3</sup>

## > Kawasaki disease (Gammagard S/D)

- > Single 1g/kg or 400mg/kg for 4 consecutive days, beginning within 7 days of fever onset<sup>5</sup>

## > ITP

- > Gammagard S/D: 1g/kg for maximal 3 doses on alternate days<sup>5</sup>
- > OCTAGAM 10% for Chronic ITP: 2g/kg divided in equal doses given on 2 consecutive days<sup>4</sup>

## ADMINISTRATION CONSIDERATIONS

- > Screen for immunoglobulin levels before treatment (specifically IgA deficiency)
- > MMR vaccine should be delayed for at least nine months after IVIG therapy or vice versa as IVIG can render the vaccine inactive

## SIDE EFFECTS<sup>1-3</sup>

- > Nausea, headache, fatigue, febrile infusion reactions, anorexia, arthralgia, myalgia
- > Hemolysis, neutropenia, thrombosis and embolism, pulmonary edema, renal failure, aseptic meningitis, transient ischemic attack, stroke, myocardial infarction, and severe anaphylactic reactions

## DRUG INTERACTIONS<sup>4,5</sup>

- > May interfere with immune response to live viral vaccines
- > May confound the results of serological testing

## CONTRAINDICATIONS<sup>4,5</sup>

- > History of anaphylactic or severe systemic reactions to human immunoglobulin
- > gA deficient patients with antibodies against IgA and history of hypersensitivity

## PREGNANCY AND BREASTFEEDING<sup>4,5</sup>

- > No human or animal data during pregnancy or breastfeeding

## MONITORING<sup>2,7</sup>

### > Baseline Labs:

- > Serum levels of immunoglobulins (especially IgA)
- > CBC with differential
- > Complete metabolic panel
- > Rheumatoid factor
- > Cryoglobulin
- > HIV, Hepatitis A, B, and C
- > Urine Analysis

### > Periodic monitoring:

- > CBC with differential
- > Complete metabolic panel
- > Antibodies to HIV, Hepatitis A, B, and C