

Glycyrrhizin (or glycyrrhizic acid or glycyrrhizinic acid) Summary for Intravenous use

As used at Anderson Medical Specialty Associates and in the Bastyr University Clinical Research Center (BCRC).

Paul S. Anderson: Last Update 08-31-2014

INTRAVENOUS GLYCYRRHIZIN:

Glycyrrhizin a.k.a. glycyrrhizic acid / glycyrrhizinic acid (GA) has great potential in the treatment of patients who have chronic viral illnesses and possibly in oncology. Data in humans shows it to be a safe agent [2] and helpful in Hepatitis C [1]. Over a decade of clinical use has revealed no adverse events when used under standard dose and administration guidelines [3].

INTRAVENOUS USE GUIDELINES:

Dose: [1,2,3]

- Test dose at 40-60 mg IV on the first day
- Subsequent doses could increase to 240 mg if tolerated two times weekly

Administration:

- Intravenous dosing via either a central or peripheral line.
- Carrier solutions:
 - Dextrose 5% in Water (D5W) 100 to 1000 mL carrier solution
 - 0.9% normal saline (NS) or 0.45% (1/2NS) 100 to 1000 mL carrier solution
- Rate of administration: 60 to 180 minutes as tolerated by the patient
 - Monitor for signs of blood pressure elevation and electrolyte shifts which can be the first sign of a non-tolerated dose [3,4]
 - Dosing once to twice per week at the higher range avoids these concerns in most cases. [3,4]
 - For allergic / anaphylactic reaction treat per standard protocol.
- Other IV compatibility:
 - May be mixed with any water soluble vitamin / mineral IV solution [3]

Screening:

- Intolerance to oral GA is a caution and may exclude use in the IV setting
- Uncontrolled hypertension and sodium-potassium imbalance are cautions
- Lab studies:
 - CBC, Chemistry panel (Metabolic panel including electrolytes, bilirubin, AST/ALT/GGT, eGFR/BUN/CRE).
 - Follow blood pressure pre and post IV

References:

1. van Rossum TG, Vulto AG, Hop WC, Brouwer JT, Niesters HG, Schalm SW. Intravenous glycyrrhizin for the treatment of chronic hepatitis C: a double-blind, randomized, placebo-controlled phase I/II trial. *J Gastroenterol Hepatol*. 1999 Nov;14(11):1093-9.
2. van Rossum TG, Vulto AG, Hop WC, Schalm SW. Pharmacokinetics of intravenous glycyrrhizin after single and multiple doses in patients with chronic hepatitis C infection. *Clin Ther*. 1999 Dec;21(12):2080-90.
3. Anderson P, Cochran B. Personal experiences with the clinical use of intravenous substances. AMSA, BIORC and Private clinic data. Seattle Washington, 2014
4. van Rossum TG, de Jong FH, Hop WC, Boomsma F, Schalm SW. 'Pseudo-aldosteronism' induced by intravenous glycyrrhizin treatment of chronic hepatitis C patients. *J Gastroenterol Hepatol*. 2001 Jul;16(7):789-95.