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Intended For MD's

Preparation of Sodium Ascorbate

(non acidic vitamin C)

for IV and IM Use

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Note: *The following are excerpts from letters sent to physicians on the subject of IVC* – Robert Cathcart

Step 1: The Stock Bottle of Sodium Ascorbate – 50% ascorbate

Sterilize a 500 cc IV bottle along with a funnel, the rubber stopper, and a spoon.

Then fill the bottle to the 300 cc line with sodium ascorbate fine crystals. (I weighed the sodium ascorbate out one time and 250 gm came up to the 300 cc line.)

If Storing the Solution: Then add 1/3 of the 20 ml bottle (6.6 cc) of edetate disodium (EDTA) for injection, USP 150 mg/ml. (The EDTA acts as a preservative to prevent vitamin C degradation.). If using in the next day or two, this step would not be necessary.)

Then add water for injection q.s. 500 cc.

It turns out that sodium ascorbate is soluble to almost exactly a 50% concentration at room temperature. The pH of this has always turned out to be 7.4.

Cathcart: I do not worry about the sterility of this because this solution is very bacteriocidal. Perhaps it should be filtered to get out particulate matter but I have never seen this to be a problem.

Levy: We pass the final solution from one IV bottle to another vacuum IV bottle in an IV line through a millipore filter. Probably not essential, but no doubt gives better legal protection than medical protection if any problems or infection were to arise. An alternative would be to use a millipore filter IV line with each administration to the patient.

Our nurses make multiple stock solutions and store in a refrigerator for later use.

My nurse discovered recently that if you do not shake the mixture to make it go into solution until after you

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refrigerate it and are ready to use it that the solution is less yellow. (I presume that this is good because sodium ascorbate is clear and dehydroascorbate is yellow. The made up solutions are always a little yellow but refrigeration before mixing results in a far less yellow mixture.) Simply leave the sodium ascorbate as a sludge at the bottom until you are ready to use.

Shake up the bottle just before infusions. (If there is 1 mm of crystals left on the bottom, add 1 mm of water to the top.)

Levy: A few points. If possible, use powder rather than crystals. Mixes much more quickly. Makes a big difference when doing lots of IVs. Also--essential is a magnetic stirrer, with crystals or powder.

Step 2: Preparation of the IV Bottle

I recommend that the above stock bottle solution be added to sterile water for injection such that 30 Gms (60 cc) to 60 Gms (120 cc) is added to a quantity of sterile water sufficient to make 500 cc of the final solution to be injected IV. Note: For patients with chemical or other sensitivity reactions, it is best that the sterile water be obtained in glass IV bottles rather than the plastic IV bottles.

IM Injections

IM injection material for infants is made from the stock solution diluted 50% in water giving a 25% solution. Generally, the size of the injection can be 2 cc in each buttocks. Ice may be applied if it hurts too much. This may be given every hour or so, frequently enough to bring the fever or other symptoms of excessive free radicals down rapidly.

General Comments

I have not had any trouble with these solutions. I hear all sorts of weird stories from patients who have gotten ascorbate elsewhere. I do not know if it is an acid problem (because ascorbic acid was used rather than sodium ascorbate) or whether some colleagues get carried away with what other things they add to the intravenous solutions.

I think that there may be, at times minor troubles with commercially prepared solutions because of the following. I understand that the U. S. Pharmacopeia specifies that the solutions be made from ascorbic acid and then buffered with sodium hydroxide or sodium bicarbonate to a pH between 3.5 and 7.0. I worry that 60 grams of ascorbate at a pH of 3.5 is too acid. I know that Klenner (the first physician who used high dose intravenous ascorbate by vein) also made his solutions from sodium ascorbate powder despite the fact that he referred to the solutions in his papers as ascorbic acid. (This fact comes from discussions with Annie Klenner, Fred Klenner's wife and nurse.).

I watch patients for hypocalcemia (although I have not seen it), hypoglycemia (I encourage patients to eat while taking the IV), and dehydration (I encourage water and slow the IV down.) I also see headaches afterward but not so much since I have been emphasizing the continuing high doses of oral ascorbic acid as soon as the IV is over.

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Actually I give oral ascorbic acid while the IV is going to get a double effect. Bowel tolerance goes up while the IV is running but one has to be careful to stop giving oral C about an hour before the IV stops or else you may get diarrhea as soon as the IV stops. The oral ascorbic acid is then started again 1/2 to 1 hour after the IVC stops.

Dosage Guidelines (Dr. Levy)

One gram per kilogram of body weight would be a very good general guide, which would be about 20 to 25 grams for a 50-pound child and 100 grams for a 220 pound-adult. However, just giving most adults 50 grams at a time for most conditions works out well.

Rate of infusion can range anywhere from 30 minutes to 3 hours, depending upon comfort of the IV, the amount being administered, and the condition being treated (toxins, more rapid, infections, cancer, etc., less rapid). The more rapid infusions will often be associated with hypoglycemia, which can usually be easily addressed with a little fruit juice or even a candy bar. But it is best if the added glucose/sugar can be avoided.

Dosage is always empirical, as in give more if the clinical response, especially in infections or poisonings, is not adequate. - Thomas Levy, MD

Dr. Cathcart's Video Instructions: http://www.youtube.com/watch?v=Zgi-7xPrCAg

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