

The Protocol for DDAVP Response Test and Administration for adults and children over two years of age with diagnosis of Von Willebrands Disease

Reason for DDAVP trial:

DDAVP is a synthetic analogue of antidiuretic hormone. DDAVP produced a marked increase in factor VIII coagulant and Von Willebrand`s factor activities. Therefore, it could be effective to be given to patients with Von Willberand`s disease prior invasive procedure or surgery and following trauma. Most patient will require a formal trial of DDAVP to document the response, and that no significant reactions. DDAVP could be administered either through IV infusion over 30 minutes or through subcutaneous injection.

Contraindications:

1. Infants at age less than 1 year old as there is a risk of seizures.
2. Pregnancy and breast feeding
3. Cardiac disease
4. Patients on Diuretics (risks of hyponatremia)
5. Habitual and Psychogenic polydipsia

Side effects:

During the infusion patient may experience a decrease in blood pressure, tachycardia, and facial flushing, due to vasodilation. These most commonly occur if the infusion is administered rapidly.

Other occasional side effects are headache, stomach pain and nausea.

Patient preparation:

- Record all medication that the patient is currently taking, checking and discussing with the consultant if DDAVP is contraindicated. Make sure that patient has not taken any NSAIDS (Ibuprofen) in the 10 days prior the test.
- Explain the whole procedure to the patient, parent and child explaining possible mild side effects; facial flushing is common, headache and hypotension.
- The patient should be advised to have something to eat before the procedure.
- Explain that DDAVP can cause Increase thirst and that fluids should be restricted to 1 litre over the following 24-hour period which will reduce the concerns regarding fluid retention.
- Advise patients that alcohol should be avoided for 24 hours because of its capacity for dehydration.
- Take patient weight.
- Take baseline observations: Temp, Heart rate, BP and Respiratory rate.

Dosing of DDAVP:

Intravenous Infusion:

- The recommended dosage of DDAVP is calculated at 0.3 micrograms per kg.
- DDAVP for IV use is usually prepared in vials of 4 micrograms per ml.
- In Adults age >16 years old: The prescribed dose should be diluted in 100mls of 0.9% sodium chloride.
- In Children between ages of 2-16 years old: The prescribed dose should be diluted in 50 mls of 0.9% sodium chloride.

Subcutaneous injection:

- The recommended dosage of DDAVP is calculated at 0.3 micrograms per kg.
- DDAVP for Subcutaneous use is usually prepared in vials of 15micrograms per 1 ml preparation.
- Prepare the injection in a 1ml or 2ml syringe using a blue (23 gauge) needle to draw up the DDAVP and attach a short length orange (25 gauge) needle

Pre DDAVP administration:

Insert a cannula and take following blood test :(It is important to label this blood test as pre DDAVP administration)

- FBC and U&E
- Clotting screen
- Platelet Function Test
- Factor VIII
- VWF Antigen
- VWF Activity
- Collagen Binding Assay

DDAVP administration:

1. Intravenous administration:

- Use the same venous access to attach DDAVP infusion, setting rate to run over 30 minutes.
- Observe patient, if complains of feeling dizzy or unwell, stop the infusion, lay the patient flat, take vital signs and discuss with consultant.
- During an infusion of DDAVP it is necessary to monitor the patient blood pressure every 10 minutes. If blood pressure drops significantly, stop the infusion and contact consultant for advice.
- Take observations at the end of the infusion
- Remove the cannula after infusion completed.

2. Subcutaneous administration:

- Prepare the injection in a 1ml or 2ml syringe using a blue (23 gauge) needle to draw up the DDAVP and attach a short length orange (25 gauge) needle.
- Select most appropriate site for s/c injection. Administer s/c injection following trust guideline. Remove the needle and cover with adhesive plaster.

Post DDAVP administration:

Take the following blood test at 30 minutes and then at 60 minutes post DDAVP administration finishes: (it is important to label the sample as post DDAVP at the correct interval time)

- Clotting screen
 - Platelet Function test
 - Factor VIII
 - VWF Antigen
 - VWF Activity
 - U&E
 - Collagen Binding Assay
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- Ensure the sample taken for blood test is taken from the opposite arm to which the infusion was attached if DDAVP was given through IV infusion.
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- Samples should not be taken by bleeding back from existing cannula as that will affect the results.
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- Monitor blood pressure for every 15 minutes at least one hour post administration.
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- Advice parent to contact us if patient experience headache or pass little urine.