STANDARD OPERATING PROCEDURE

Administration of High Dose Intra- Muscular Vitamin Supplements for Patients Undergoing Alcohol Detoxification

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<th>DOCUMENT CONTROL:</th>
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<tbody>
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<td><strong>Review date:</strong></td>
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<td><strong>Target Audience</strong></td>
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1. **Aim**
   The aim is to outline some of the potential problems associated with alcohol detoxification related to Thiamine deficiency and possibility of the patient developing Wernicke’s encephalopathy a potentially serious condition and the prophylactic treatments available to reduce the likelihood of this occurring.

   Due to the nature of the treatment provided (intramuscular injection) and the remote (but with potentially consequences) risk of anaphylactic reaction to the treatment, the protocol aims to outline best and standard practice for managing this treatment.

2. **Scope**
   This protocol is applicable to all patients undergoing treatment for alcohol dependence whether in the care of substance misuse services or in other directorates (e.g. adult or older adult mental health services). In the latter cases it is suggested that advice be sought from the locality’s substance misuse consultant on patient management.

   This protocol is applicable both to treatment in the community under the direct care of the relevant substance misuse team (in circumstances detailed later in this document) and, more specifically, in the adult inpatient units in Rotherham, Doncaster and Scunthorpe where the mental health ward nursing staff will also be involved in the provision of this treatment.

3. **Link to overarching policy and/or procedure**
   Safe and Secure Handling of Medicines Policy

4. **Procedure**

   **Presentation of Wernicke’s encephalopathy**

   The classic triad of confusion, ataxia, and ophthalmoplegia occurs in only 10% of cases. Difficulties in diagnosis occur due the fact that alcohol intoxication or withdrawal and common co-morbidities such as head injury share many of the features of Wernicke’s encephalopathy.

   A high index of suspicion should be maintained for any patient with alcohol dependence that also exhibits acute confusion, decreased level of consciousness, ophthalmoplegia, ataxia, memory disturbance, hypothermia with hypotension or delirium tremens.

   **Prophylaxis**

   Prophylactic treatment with parental thiamine is routinely recommended for those clients with a high risk of developing thiamine deficiency e.g. those with severe alcohol dependence, history of seizures/delirium tremens, diarrhoea, vomiting,
physical illness, malnourished, poor diet and weight loss.

In the UK, Pabrinex is the only parenteral high-potency B-complex vitamin therapy available. Two ampoules contain thiamine hydrochloride 250mg in combination with ascorbic acid 500mg, nicotinamide 160mg, pyridoxine hydrochloride 50mg and riboflavin 4mg. This protocol therefore refers to “Pabrinex” but could be taken as referring to any parenteral high dose B Complex vitamin injection marketed under any other name.

Clients admitted for an inpatient detoxification should routinely receive Pabrinex.

The only contra-indication to parenteral Thiamine would be a previous allergic reaction.

For those clients receiving a community detoxification an assessment needs to be made as to whether parental Pabrinex is required using the above criteria as a guide. If Pabrinex is not required then the client should receive oral thiamine (see below)

**Intramuscular Pabrinex**

Administer one pair of Pabrinex ampoules (thiamine 250mg) twice daily IM for three days as outlined in Section 5.1

**Oral Vitamin Prophylaxis**

The role of oral supplementation is unclear and clinical practice varies
Prescribing and administration of oral vitamins for this patient group is outside the scope of this protocol – however, the information below is included for reference.

BNF guidance:

Thiamine 100mg 1-2 tablets t.d.s. during detoxification is recommended in addition to Pabrinex or instead of if parental thiamine is not required (see above). Continue thiamine post discharge if there is cognitive impairment.

Vitamin B (Compound Strong) tablets may also be given (5mg t.d.s.)

**Treatment of Suspected or Diagnosed Wernicke’s encephalopathy**

Wernicke’s encephalopathy is a medical emergency. If suspected an assessment of the client must be made immediately to consider transfer to a medical ward. As well as examining the client for Wernicke’s an assessment should include possibilities of co morbid physical health problems e.g. infection, dehydration, head injury etc.
If suspected, treatment consists of two pairs of Pabrinex ampoules three times a day IM, followed by one pair of ampoules for 3-5 days or for as long as improvement continues.

**Risk of Anaphylaxis**

This should not preclude the use of parenteral thiamine in patients where this route of administration is required, particularly those at risk of Wernicke-Korsakoff Syndrome where treatment with thiamine is essential.

Facilities for treating anaphylaxis (including resuscitation facilities) should be available when parenteral thiamine is administered.

The risk of anaphylaxis is very low and even less when given IM. The cases documented actually occurred for Parentrovite, which Pabrinex replaced. Four reports were documented for 1 million pairs of ampoules used IV and one report per 5 million pairs of ampoules when used IM.

**Administration of Pabrinex**

The scope of this procedure is to standardise the nursing administration of medication as Trust’s Intramuscular Injection policy.

The appropriate site for this type of administration is the gluteus medius/ventro gluteal used for deep intramuscular (I.M) using the Z - track injections technique. This is identified as the upper outer quadrant of the buttock. This site is used to lower risk of hitting the sciatic nerve and the superior gluteal arteries. The Z - tracking method involves pulling the underlying skin down wards or on to one side of the injection site, inserting the needle at a right angle to the skin, which moves the subcutaneous and cutaneous muscle tissues by approx 1-2 cm. The injection is given and the needle withdrawn, whilst releasing and retracting the skin at the same time. This manoeuvre seals of the puncture tract at the junction at each tissue layer.

It is generally recommended that .IM injection cannot be administered in volumes larger than 5mls, but the preferred volume is not larger than 4mls. Therefore for pabrinex, the 7ml volume should be split into two administrations. The same barrel and needle should not be withdrawn and re-sited. Mallet and Dougherty. 2008. *Manual of Clinical Nursing Procedures 7th edition*.

Some patients may prefer to have their injection on a single site and this option can be discussed with them.

**Procedure**

**Equipment.** Sterile packed, in date.

- Recently prescribed medication. Supplied in two vials.
- 10ml syringe
- 5ml syringe
- Filter needle
• 2 needles for administration, long enough to ensure I.M injection. 20G
• Gloves
• Alcohol swabs for site cleaning
• Plasters
• Sharps bin.
• Appropriate equipment (‘Shock Pack’) for the management of anaphylaxis (containing adrenaline 1:1000 1mg/ml)

Preparation.

• Check dates on vials.
• Snap open tops
• Draw contents in to 10 ml syringe to mix. Total volume 7mls.
• Divide half to 5ml syringe (if patient has indicated preference for two injections)
• Renew the needle on to the barrel so that both syringes have fresh needles.

Implementation

• Confirm patient identity and script validity.
• Obtain consent for procedure
• Ask patient to lie on bed in prone position.
• Select and prepare injection site.
• Clean site using alcohol swab in circular motion of 5cm, for 30 seconds. Allow to dry.
• Put gloves on. With thumb and finger of non-dominant hand gently stretch back skin and hold taut.
• Remove needle sheath. Position at 90- degree to skin surface away from skin.
• Inform patient they will notice injection
• Quickly and smoothly thrust the needle through the skin and sub cutaneous tissue in to the deep muscle.
• Support syringe and check for blood by slowly pulling back plunger, if no blood appears slowly inject the appropriate volume.
• Remove needle and allow skin to relax.
• Apply plaster.
• Consider slow massage to help distribute the drug.
• Repeat procedure for 2nd half of the injection at opposite side of body (if appropriate)

Aftercare

Observe for anaphylactic- type reaction for 30 mins.
Discard of equipment safely.
Sign medication card and make entry in patient records.

If repeatedly injecting vary sites as much as possible and avoid previous sites by 2.5cm.

Ice can be used to numb the injection site, or lower pain if appropriate for patient comfort.
Treatment of Anaphylaxis

The UK Resuscitation Council states that staff administering parental medication should be trained in the management of anaphylaxis. All staff working within RDASH should receive training in immediate life support (annually), which includes the treatment of anaphylaxis. Staff should follow existing Trust protocols. This includes a requirement to be listed as an authorised nurse in the PGD to give adrenaline for anaphylaxis under the PGD. There is no requirement that medical staff have to be present whilst Pabrinex is administered. (Previously nursing staff have waited for a doctor to be present which has led to treatment being delayed unnecessarily). Equipment for the management of anaphylaxis (including adrenaline injection 1:1000 1mg/ml).

5. Links to any associated documents

Intramuscular Injection Procedure Policy

Patient Group Directions for the Administration of Adrenaline [Epinephrine] 1:1000 [1mg/ml] in the Management of Anaphylaxis