Directorate of Critical Care, Theatres and Anaesthetics
FOR ICU USE ONLY

Clonidine for Sedation

Indications:

- When adequate sedation cannot be maintained using standard drugs according to the sedation policy. To allow reduction of standard sedative agents in these patients.
- To allow weaning from conventional sedation, when agitation or withdrawal reactions are problematic.

Background:
Clonidine is a centrally acting alpha adrenoceptor agonist, which reduces sympathetic tone. This causes a fall in diastolic and systolic pressure and heart rate. Approximately 70% of a dose is excreted in the urine mainly as unchanged parent drug. The mean plasma half-life is 13 hours.

Administration:
Dilute 750 micrograms to 50 mls with sodium chloride 0.9% intravenous solution,
(15micrograms/ml). Stable for 24 hours at room temperature.
The usual starting dose by continuous intravenous infusion is 0.5micrograms/kg/hr (approximately 2.5mls/hr for 70kg patient). Titrate according to response. In hypotensive patients a lower dose may be necessary. Doses of up to 2micrograms/kg/hr have been used (i.e. 9.5mls/hr for a 70kg patient).

Contraindications:

- severe bradycardia
- sick sinus syndrome
- $2^{nd}/3^{rd}$ degree heart block

Cautions:

- cerebrovascular disease, ischaemic heart disease, occlusive peripheral vascular disorders and history of depression.
- accumulation may occur in patients with severe renal impairment. Consider reducing dose when control achieved.
- observation that high doses of clonidine in combination with high doses of haloperidol may increase arrhythmogenic potential (QT prolongation and ventricular fibrillation)
- concomitant use of beta blockers increases risk of withdrawal hypertension.

Side-effects:

Bradycardia, transient hypertension, hypotension, transient abnormalities in LFTs, peripheral vasoconstriction, rash, constipation, urinary retention, ileus.

Weaning of clonidine:
Consider weaning other sedation before reducing clonidine. Withdrawal of clonidine should be gradual so as to avoid rebound hypertension. Sudden withdrawal may cause agitation, sweating, tachycardia, headache and nausea. The use of concomitant betablockers can increase risk of withdrawal hypertension.

Experience has now been gained in faster weaning. Half the hourly infusion rate, and in 12 hours if there are no adverse signs half the rate again. At 24 hours the infusion can be stopped. If a slower wean and/or enteral clonidine is desirable, wean iv dose to approximately 1200 micrograms/day (equivalent to 3.3mls/hr of clonidine, and convert to 400 micrograms tid orally/NG. The bioavailability of clonidine is 100%. However, to avoid fluctuations in BP avoid single doses greater than 400micrograms and increase frequency of administration if required. Doses of up to 1800 micrograms orally in divided doses daily in hypertension have been used, and therefore may be tolerated. **Ensure a weaning plan is documented on discharge from Critical Care.**

References:

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3. Catapres. Clonidine ampoules. Summary of Product Characteristics. www.medicines.org.uk. Accessed 23/11/09
4. UKCPA minimum infusion volumes. Fourth edition. 2012.

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