**Administration guide for IV Lidocaine in cardiac patients**

**Administration**

* For the management of ventricular arrhythmias lidocaine is given by intravenous bolus followed by a continuous intravenous infusion.
* The infusion must be given via an infusion pump with the rate control device.
* Lidocaine has a low pH and may cause venous irritation and tissue damage in cases of extravasation. Administer via a large peripheral vein or central line, monitoring insertion site closely for signs of phlebitis.
* Re-site cannula at first signs of inflammation.

**Monitoring**

* Continuous ECG monitoring, blood pressure and respiratory function.
* Resuscitation facilities must be available.

**Loading Dose**

* 50-100mg IV bolus (approximately 1mg/kg) followed by infusion
* Administer at rate 25-50mg/minute (i.e. over 1- 2 minutes)
* May be given in two divided doses at 10 minute intervals
* Use lidocaine 1% = 10mg/ml

**Continuous infusion**

* Dose is 1-4mg/minute (depending on individual patient factors)
* Suggested regime:4mg/minute for 30 minutes then 2mg/minute for 2 hours then continue at 1mg/minute
* Reduce rate further if continued beyond 24 hours
* Patients with heart failure, liver disease or the elderly may require lower initial infusion rate
* Flush with glucose 5% or sodium chloride 0.9%
* Change the infusion bag every 24 hours.

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| Lidocaine dose | Infusion rate (ml/hour) lidocaine 0.4% w/v |
| 1mg/minute | 15ml/hour |
| 2mg/minute | 30ml/hour |
| 3mg/minute | 45ml/hour |
| 4mg/minute | 60ml/hour |

**Preparation:**

* Use thepre-prepared bags of 0.4%w/v lidocaine in glucose 5% if available.
* **If pre-prepared bags are unavailable:** remove 100ml from a 500ml glucose 5% bag (to give 400ml). Add 100ml of 2% lidocaine to make 0.4% w/v lidocaine in glucose 5%(equivalent lidocaine4mg/ml)

**Example of Calculation**

Lidocaine 0.4% w/v = 0.4g/ 100ml = 400mg/100ml = 4mg/ml

2mg/minute = 2 x 60 mg/ hour = 120mg/hour

Infusion rate = 120mg/hour = 30ml/hour

 4mg/ml

**Adverse effects**

* Arrhythmias,
* Circulatory collapse,
* Hypotension,
* Respiratory disorders,
* Drowsiness,
* Dizziness,
* Confusion,
* Blurred vision,
* Tinnitus,
* Tremor,
* Psychosis,
* Euphoria.

**Contraindications**

* Heart Block,
* Hypovolaemia,
* Renal impairment (CrCl<10ml/min)

**References:**

For full prescribing details see www.medicines.org.uk : lidocaine

Medusa is available via pharmacy page on the intranet