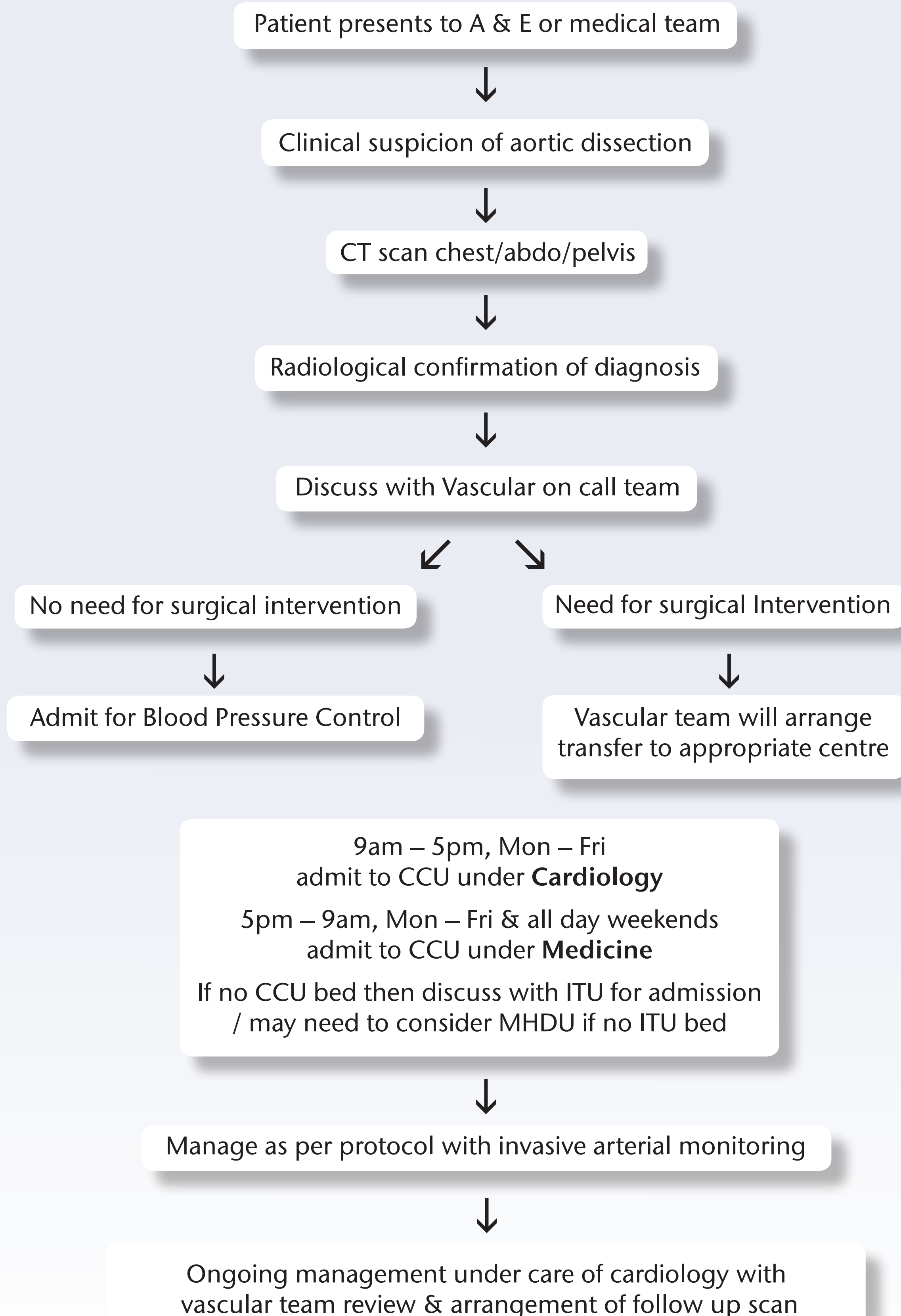
Management of Patients with Acute Type B Aortic Dissection

Exclude need for surgical intervention then early medical management with aggressive BP control in CCU / HDU
Invasive Arterial Blood Pressure(IABP) measurement / urinary catheter / continuous ECG monitoring



BP Control

Systolic IABP target	100-120 mmHg
Mean Arterial Pressure target	< 80mmHg
Heart rate target	50 – 60 bpm

If patient develops leg weakness, contact vascular surgeon immediately – possible spinal cord ischaemia – interventions include:

Increasing IABP to avoid infarction of spinal cord

Repeat CT or MRI

Emergency Cerebrospinal Fluid drain

Intravenous therapy

1: Labetalol (1st choice)

IV bolus for initial control- 10mg bolus slowly every 2mins to achieve target (max 200mg)

And also start

IV infusion - 1mg/ml (peripheral) or 5mg/ml (central line) – start at 15mg/hour and titrate to effect – often 10 – 60mg/hour

2: Nicardipine

(2nd line in addition to labetolol or 1st line if contraindications)

IV infusion -25mg made up to 250mls (5% Dextrose) – 100mcg/ml

Titrate to clinical effect – start at 30 -50ml/hour (3-5mg/hour)

Can increase every 15 minutes by 25ml/hour to max 150ml/hour

Once target achieved reduce dose gradually – usual maintenance is 20 – 40ml/hour (2 – 4mg/hour)

3: Hydralazine (3rd line in addition to Nicardipine and / or Labetolol)

IV bolus -5mg slowly every 20 minutes (max 20mg)

IV infusion - 60mg/60ml (0.9% Sodium Chloride) i.e 1mg/ml– start at 3ml/hour – increase every 10 minutes by 3ml/hour – max 18ml/hour(300mcg/minute) Max 18ml/hour

Oral Therapy – start as soon as possible

Bisoprolol 2.5 – 20mg once a day

Amlodipine (in addition to Bisoprolol) 5 – 10mg once a day

Doxazosin (in addition to above) 1 – 16mg once a day

Hydralazine (in addition to above) 10 – 25mg four times a day

Avoid ACE Inhibitors & diuretics initially while risk of acute kidney Injury

Analgesia

Morphine 1 – 10mg IV titrated to effect then PCA 1mg/5minute lockout – can use fentanyl if renal impairment

Paracetamol 1g IV up to four times a day (decrease dose if less than 50kg)

Antiemetic

Ondansetron 4mg IV 8 hourly as required

Cyclizine 50mg IV 8 hourly / Metoclopramide 10mg IV 8 hourly as required

Adapted from Critical Care Guidelines NHS Lothian and summary of product characteristics.
Permission granted to use given by Dr Mark Dunn Critical Care consultant (lead author)

References

1. Curran MP, Robinson DM, Keating GM. Intravenous nicardipine: its use in the short-term treatment of hypertension and various other indications. Drugs. 2006;66(13):1755–82.
2. Dade J et al. UKCPA Critical Care Group. Minimum infusion volumes for fluid restricted critically ill patients. 4th Ed. V4 2012. Accessed 4.2.15 via http://www.ukcpa.net/groups/criticalcare/documents/?category=71
3. Summary of Product Characteristics. Nicardipine 10mg/10ml solution for Injection. Concordia International. www.medicines.org.uk. Accessed 12/12/17.
4. Summary of Product Characteristics. Hydralazine 20mg Powder for Concentrate for Solution for Injection/Infusion. Concordia International. www.medicines.org.uk. Accessed 12/12/17.
5. Summary of Product Characteristics. Labetalol Hydrochloride 5mg/ml solution for injection. Concordia International. www.medicines.org.uk. Accessed 02/02/2018.
6. Hydralazine Hydrochloride. The UK Injectable Medicines Guide. Accessed 09/04/18.