Ultrasound for Vascular Access

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Aims

• Why use US for vascular access?
• Method of US use
• Internal jugular vein sono-anatomy
• Subclavian vein sono-anatomy
• Femoral vein sono-anatomy
Introduction

• NICE technology appraisal TA49; Central venous catheters – ultrasound locating devices

‘….2-D imaging ultrasound guidance should be considered in most clinical situations where CVC insertion is necessary, whether the situation is elective or an emergency’.

‘….Everyone who uses 2-D imaging ultrasound guidance to insert central venous catheters should have appropriate training to ensure they are competent to use the technique’
Introduction

• 2D US reduces
  • Risk of failed placement
  • Catheter placement complications
  • Failure of first catheter attempt
  • Attempts required for success
  • NICE Assessment Group concluded
  • 2D US prevents 90 arterial punctures / 1000 patients
  • Saves £2 per insertion
Method of Use

- To identify anatomy – ‘Quick Look’
- To interrogate anatomy
- Visualise needle – ‘Real Time’
- Confirm placement of line
- Exclude complications of procedure
Ultrasound Anatomy

INTERNAL JUGULAR
INTERNAL JUGULAR

NEEDLING TECHNIQUE
Ultrasound Anatomy

SUBCLAVIAN VEIN
Ultrasound Anatomy

FEMORAL VEIN
Conclusion

- Benefits of US use
- Methods of US use
- Sono-anatomy of major central vascular access sites
- How to needle a vessel using US