SACRAL DIMPLES, SPINAL SINUS – NEONATAL MANAGEMENT

1. PURPOSE OF THE GUIDELINE
   • To differentiate the occult spinal dysraphism (OSD) from simple sacral dimple.
   • To appropriately investigate and arrange follow up for infants with OSD

   The Scope
   These guidelines cover
   • The indications for imaging
   • Advantages and disadvantages of the 2 main imaging modalities
   • Referral to Spina Bifida Clinic at Sydney Children’s hospital

2. CLINICAL PRACTICE

   Order Spinal Ultrasound for the following :
   • Subcutaneous mass or lipoma (sometimes seen as deviation of gluteal fold)
   • Hairy patch
   • Dermal sinus (Sinuses opening onto skin surface, located above gluteal cleft and have a
     cephalically oriented tract)
   • Atypical Dimples
     Deep (>5mm)
     >2.5cms from anal verge
   • Vascular lesion e.g. hemangioma, telangiectasia
   • Skin appendages or polypoid lesions e.g. skin tags, tail like appendages
   • Scar like lesions

   Imaging not required
   • Simple Dimple
     (<5mm deep, <2.5cms from anal verge)
   • Coccygeal pits (located within gluteal cleft, oriented caudally or straight down)

   Management of Atypical Dimple and Abnormal Imaging
   • Review Spinal Ultrasound in Newborn whilst the baby is in Hospital (Postnatal Ward)
   • If Ultrasound is abnormal
     Organise Appointment in Spina Bifida clinic (CNC phone ext; 21595).
     May inform Neurosurgery Reg and Clinical Nurse Consultant (CNC) Paediatric
     Neurosurgery (Pager 47165) and Urology Fellow or Registrar about any intervention
     needed prior to appointment in spina bifida clinic.
   • Arrange for a Urinary Tract Ultrasound at 1 month of age, irrespective of spinal ultrasound
     finding:
     o If the Dimple is atypical or
     o abnormal cutaneous signs are present, and fax a referral to Spina Bifida Clinic (phone
       extension 21595) for a review in 4-6 weeks with urinary tract ultrasound report. The
       decision not to send to Clinic should be at neonatologist’s discretion.
3. Educational Notes

**Occult Spinal Dysraphism (OSD)**
- Skin lesion such as lipomas, spinal sinuses, hairy patches etc are well recognised markers of Occult Spinal Dysraphism (OSD).
- Spinal Dysraphism occurs because of incomplete/abnormal closure of the neural tube early in pregnancy.
- Detection of OSD is difficult in infants as abnormal neurologic examination is not apparent until the child becomes ambulatory or even later.
- The discovery of a midline skin lesion in an otherwise asymptomatic neonate often prompts a search for OSD using imaging. However it is not clear which lesions require further investigations particularly in cases of skin dimples.
- The disorders can range from tethered cord to split cord malformation.

**Why look for OSD?**
- If untreated OSD can lead to neurological sequelae in the lower limbs, urinary and bowel symptoms.
- In tethered Cord syndrome, cord traction can occur as a result of growth which may impair microcirculation to the cord leading to progressive cord ischaemia.
- Surgical intervention for spinal lesions may prevent irreversible neurological damage.
- When OSD is the primary finding at least 50% are associated with cutaneous marker.
- It is thought that between 3-8% of patients with significant skin lesions over the spine will have an underlying OSD. A combination of 2 or more cutaneous lesions has been shown to be the highest indicator of OSD.

**Which Imaging to chose:***

- **Spinal Ultrasound**
  - Advantage: Best undertaken within 3 months of age, generally earlier the better. After 6 months not possible as Spinal ossification occurs and quality of examination becomes very poor.
  - Cheap
  - Portable and don’t require anaesthesia
  - First Line investigation
  - **Disadvantage:** Can miss small amounts of fat within the filum terminale and small dermal sinus tracts

- **Imaging abnormalities seen**
  - Position of Conus (Lower in tethered cord syndrome). Conus should not be lower than L2 at any age.
  - A thickened filum or a lipoma
  - Normal mobility of nerve roots in the thecal sac

- **Spinal MRI**
  - Advantage: Better visualisation of bony structures
  - Identify fusion defects and segmentation anomalies such as hemivertebra.
  - **Disadvantage:** Expensive, Not portable, requires Anaesthesia
4. RELATED POLICIES/ PROCEDURES/CLINICAL PRACTICE GUIDELINES
None

5. REFERENCES: