RAMA UNIVERSITY

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FACULTY OF NURSING

CHILD WITH CONGENITAL DISORDERS

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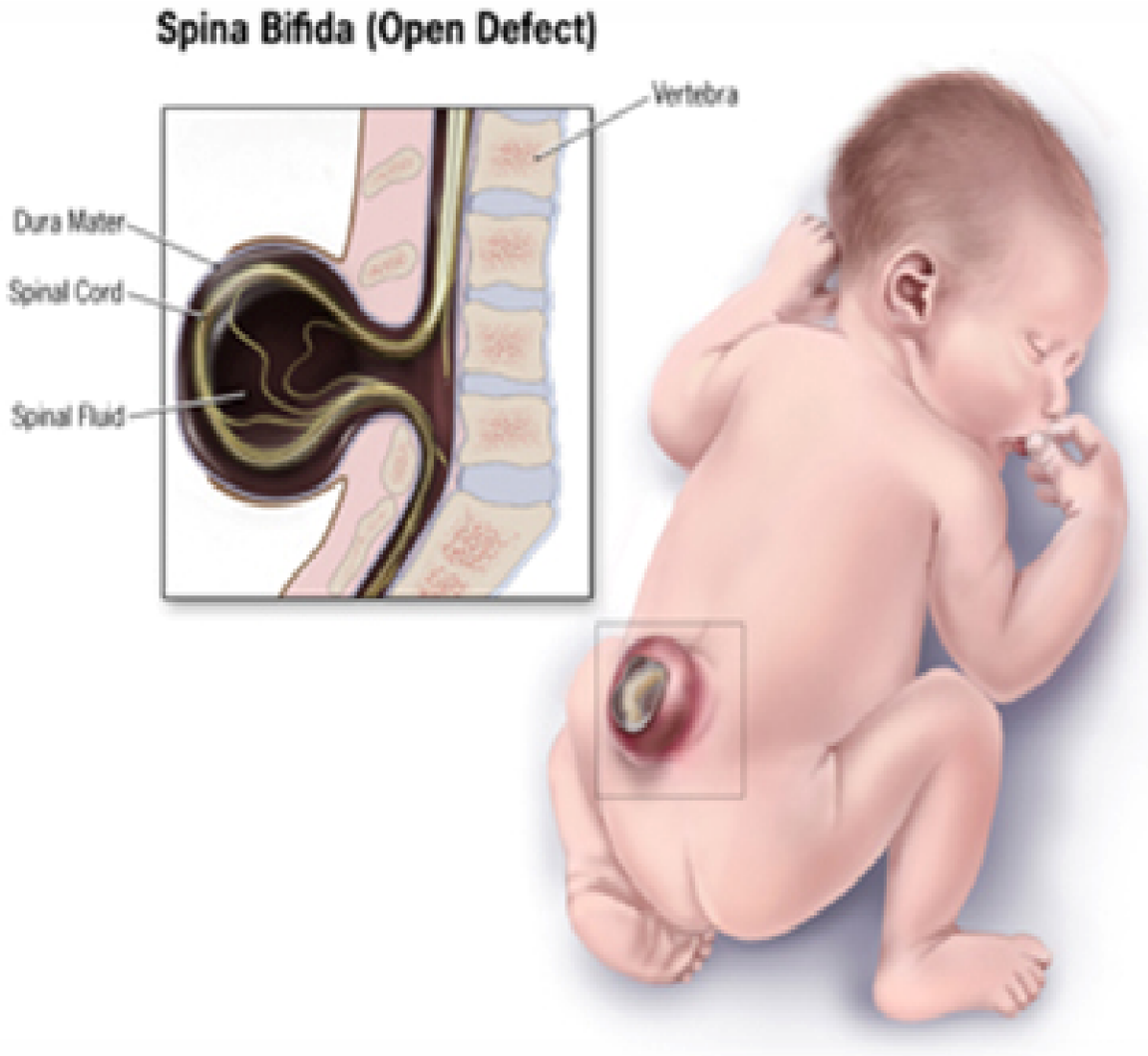
SPINAL BIFIDA



DEFINITION

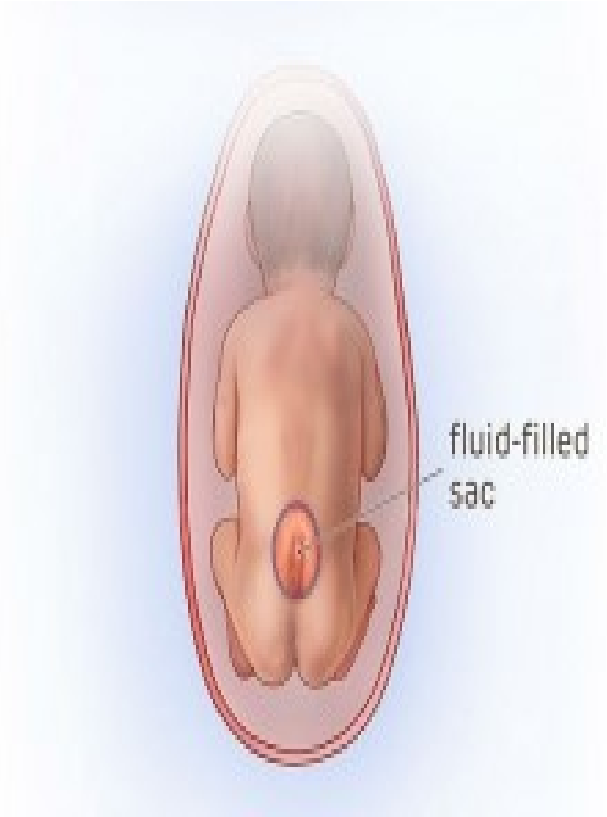
Spinal bifida is a neural tube defects where there is an incomplete closure of the vertebrae and neural tube.

OR

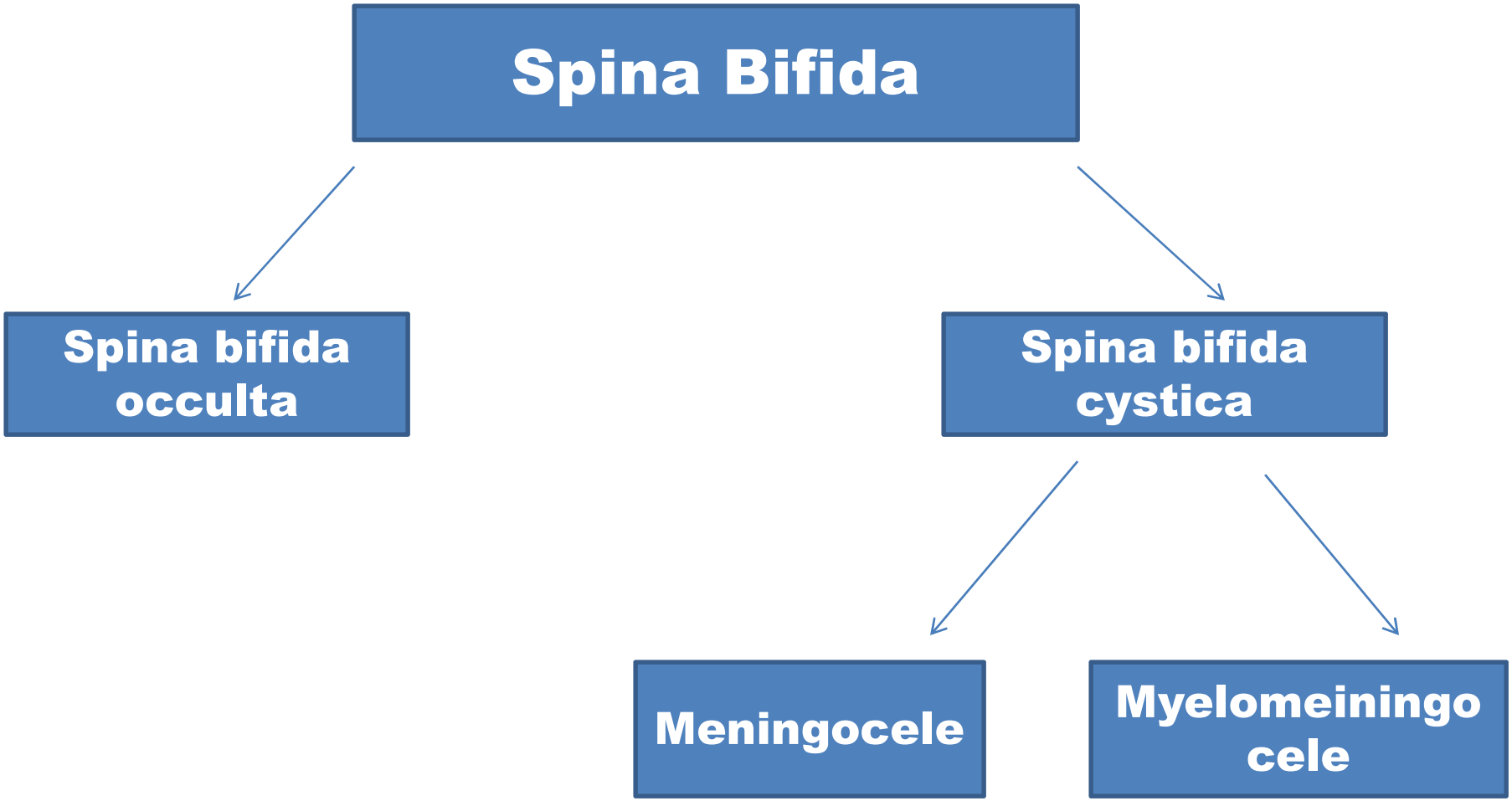
Spinal bifida is a malformation of spine in which posterior portion of lamina of vertebra fail to closure with or without defective development of spinal cord.

ETIOLOGY

- Genetic
- Maternal age (pregnant women >35 years and <20 years)
- Environmental (radiation
  defective neural tube dev
- Diet (folic acid deficiency
- Medication (anticonvulsa



CLASSIFICATION/TYPES



TYPES OF SPINAL BIFIDA

1. Spinal Bifida Occulta

- An abnormality is confined to the vertebrae only and is due to an unclosed posterior vertebral arch.
- This has no visible defect to the external (no protrusion). It occurs most at the lumbasacral area.
- There is a dimple, hairy patch, dark spot or swelling over affected area
- Spinal cords and nerves usually normal

- It is the mildest type of spina bifida
- It has no symptoms
- There is gap in one or more of the vertebra of the spine
- No treatment needed

2. Spinal bifida Cystica

- A more severe type of spinal bifida
- This refers to the visible defect with the external saclike protrusion
- It has two major forms;

A- Meningocele

B- Myelomeningocele

A. Meningocele

- Is a rarest form of which a cyst or fluid-filled sac pokes through an open part of the spine.
- The sac contains membranes that protect spinal cord but not spinal nerves i.e. there is no neural elements but only CSF and meninges.

B. Myelomeningocele

- Most severe form of spinal bifida cystica
- The cyst holds both membranes and nerve roots of spinal cord and often the cord itself
- Almost 96%

Clinical Manifestations

Signs and symptoms vary according to degree of spinal defect:

- Readily apparent on inspection!
- Loss of sensation below lesion
- Poor urinary and bladder control. There is an Overflow incontinence with constant dripling in urine due to nerve dysfunction that supplies the bladder.

- Joint deformities in lower extremities due to demolition to the muscles of the lower extremities.
- Orthopedic abnormalities (i.e. club foot, hip dislocation, scoliosis)
- Hydrocephalus
- Swelling
- Brain damage

DIAGNOSTIC EVALUATION

- Prenatal diagnosis-

  -USG

  -Fetal MRI

  -Amniocentesis

- Diagnosis after birth-

  - Neonatal examination
  - CT scan and MRI
  - RFT
  - Urine
  - WBC count

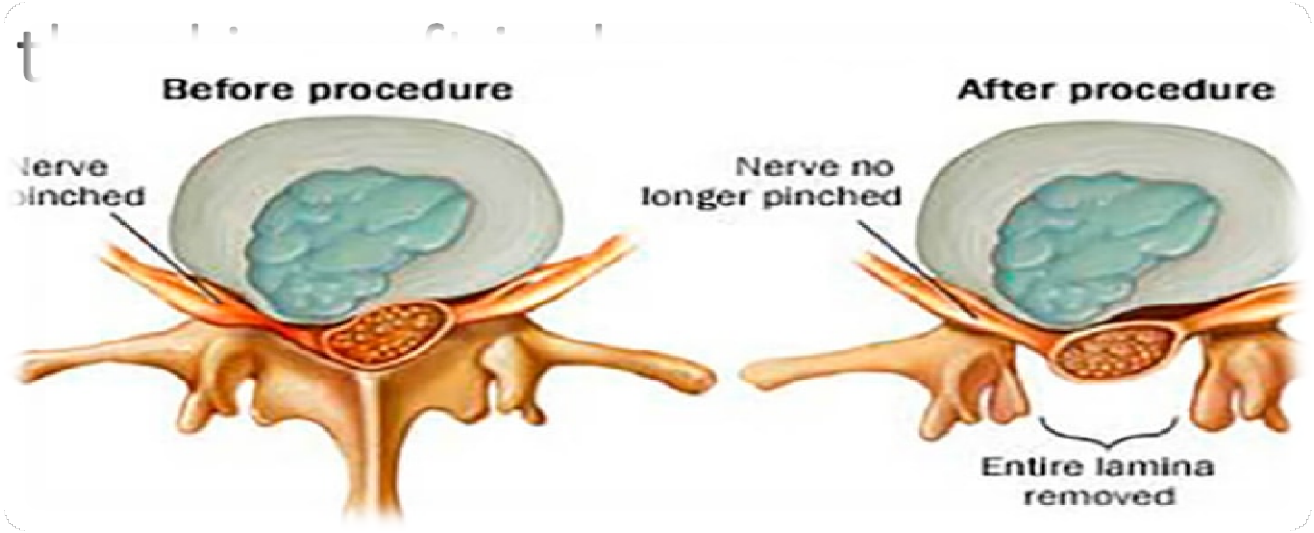
- Neurological test (for motor response and sensory reaction, developmental assessment to detect any delay in milestone).

MANAGEMENT

➢ **Surgical management-**

a) Laminectomy (it is a surgical procedure that removes a portion of the vertebral bone called the lamina. Which is the root of spinal cord)

b) T- closure of t



Nursing Management

Pre-Op

- Position the child in prone with legs abducted. This reduces tension and risk of sac trauma.
- Put the child in an incubator or warmer area without clothes. This maintains normal body temperature, and reduces trauma from the clothes.
- Apply dressing (moist, no adhesions), to avoid drying of the area due to heat in the incubator.
- Strictly use the sterile gauze so as to prevent re-infection.
- Change dressing two-four hourly, to avoid drying.

- Use normal saline or silver nitrate in dressing.
- Gentle handling of the child to avoid any risk of trauma.
- Change the child’s position every two hours, to promote circulation and prevent development of decubitus sore.

- Check vital signs and signs of increased intracranial pressure.
- Assess for signs of hydrocephalus.
- Cover the sacrum with sterile surgical drape, but not latex tape.
- Measure the head circumference
- Prepare the mother psychologically.
- Apply gentle pressure to suprapubic area to facilitate urine emptying.
- Gently do a range of motion of the extremities to the child.

Post-Op

- Position the child in prone to avoid pressure on suture, or side lying position alternatively.
- Monitor the child`s vital signs every 30 minutes until stable.
- Use all measures to avoid any infection e. g. hand washing.
- Monitor input and output.
- Encourage the mother to continue breastfeeding if the child is being breastfed.
- Resume the feeding after the effects of anaesthesia.
- Remove the dressings after 48hrs to check any signs of bleeding or bulging

Complications

- Meningitis due to infections
- Hydrocephalus due to Increased Intracranial Pressure
- Physical and neurological problems e.g. lack of normal bowel and bladder control, Paralysis of the legs
- Latex allergy

THANK YOU