

## Neonatal Endocrine System: Physiology and Complications

### Objectives

- Recall the role of the endocrine system and its impact on metabolism, growth and reproduction
- Identify the pathophysiologic basis for selected congenital disorders of the pituitary, thyroid, adrenals, pancreas and organs of the reproductive system and outline the management approaches recommended for these disorders
- Describe the significance of a multidisciplinary team approach in addressing the issues surrounding diagnosis, acute care management and long term care needs as well as the critical requirements for family support related to neonatal endocrine disorders

### Content Outline

1. Description of Glands Comprising the Endocrine System
2. Overview of Pituitary Gland Function & Related Disorders
  - 2.1 Congenital hypopituitarism
  - 2.2 Diabetes mellitus
  - 2.3 Syndrome of inappropriate antidiuretic hormone
3. Overview of Thyroid Gland Function & Related Disorders
  - 3.1 Congenital hypothyroidism
    - 3.1.1 Clinical features
    - 3.1.2 Diagnosis
    - 3.1.3 Collaborative management
  - 3.2 Transient disorders of thyroid function
  - 3.3 Hyperthyroidism (neonatal Graves' disease)
4. Overview of Adrenal Gland Function & Related Disorders
  - 4.1 Transient adrenocortical insufficiency of prematurity
  - 4.2 Adrenal hemorrhage
  - 4.3 Congenital adrenal hyperplasia
5. Overview of Sexual Development & Related Disorders
  - 5.1 Sexual differentiation of the fetus
  - 5.2 Disorders of sexual development
    - 5.2.1 46XX & 46XY developmental sexual disorders (DSDs)
    - 5.2.2 Androgen insensitivity syndrome (AIS)
    - 5.2.3 Testosterone biosynthetic defects
    - 5.2.4 5-ARD-2 deficiency
    - 5.2.5 Gonadal dysgenesis
    - 5.2.6 Ovotesticular DSD
  - 5.3 Management of developmental sexual disorders (DSDs)
    - 5.3.1 General principles
    - 5.3.2 Clinical manifestations
    - 5.3.3 Diagnostic studies
    - 5.3.4 Communication with parents
6. Overview of Pancreatic Function & Related Disorders
  - 6.1 Infant of a diabetic mother (IDM)
  - 6.2 Neonatal diabetes mellitus
  - 6.3 Congenital hyperinsulinism
  - 6.4 Cystic fibrosis

### Reading Material Resources

This self assessment module is based on the resources listed below.

The reading materials are in the form of a PDF file and can be accessed from the online testing center once the module is purchased.

Chapter 7, Comprehensive Neonatal Care, An Interdisciplinary Approach, Kenner, Saunders Elsevier, 2007, pages 155-174.