ENDOCRINOLOGY & METABOLIC DISEASES

Course Organiser: ME Herrtage

Lecturers: ME Herrtage, K Hughes

Term: Michaelmas

Aims:
• The course is designed to enable the students to develop their physiological knowledge of the endocrine system into an understanding of the effects that would be produced by excessive or deficient production of a hormone.
• The course is taught from basic principles and is accompanied by lecture notes containing relevant information about the specific disorders.
• Although concentrating on small animal disorders, the course is relevant to all species and contains only core course material.

Objectives:
• To diagnose and treat the common endocrinopathies and metabolic disorders which may be encountered in veterinary practice.
• To understand the pathophysiology of endocrine and metabolic disease in order to provide a basis for life-long learning.

Lecture List:

1–2: Introduction to endocrinology. Pituitary disorders and thyroid disorders (part 1) MEH

3. Thyroid disorders (concluded) MEH
Hyperthyroidism. Thyroid tumours.

4. Calcium and phosphorus metabolism MEH
Calcium and phosphorus in plasma, bone, gut and kidney. Control of calcium metabolism by parathyroid hormone, vitamin D and calcitonin.

5. Pathophysiology of calcium and phosphorus. Parathyroid disorders MEH

6. Magnesium metabolism. Adrenal disorders (part 1) MEH
Magnesium metabolism. Magnesium deficiency: chronic and acute

7. Adrenal disorders part 2 (concluded) MEH

8. Energy metabolism MEH
Hormonal control of glucose metabolism. Effects of hypoglycaemia, stress and hormonal disorders.

9–10. Diabetes mellitus. Hypoglycaemia MEH
Aetiology and clinical signs of diabetes mellitus. Diabetic ketoacidosis.
Stabilising the diabetic patient. Investigation of the unstable diabetic.
Causes of hypoglycaemia. Diagnosis and management of insulinoma.
Other skin endocrine diseases: Sertoli cell tumour, ovarian imbalance and feline endocrine alopecia.

11–12. Pathology of the endocrine system KH
Concept of negative feedback. Failure of hormone production and Overproduction. Pituitary disease, dwarfism, gigantism, effects on other endocrine glands. Pathology of thyroid, goitre, thyroiditis and hypothyroidism.
Sex hormones, ovarian imbalance. Endocrine skin disease.

Practical component:
A 3 hour laboratory practical session combining case histories, laboratory data and pathological material will consolidate this course. Practical tuition will be further extended in the clinical rotations.

Handouts:
Handouts will be provided for all lectures.

CAL:
Endocrine System Pathology
Canine and feline metabolic emergencies

Further reading:
