GOALS AND OBJECTIVES FOR ENDOCRINOLOGY

Endocrinology, Diabetes And Metabolism

Overview:

Endocrinology is the diagnosis and care of disorders of the endocrine system. The principal endocrine problems handled by the general internist include goiter, thyroid nodules, thyroid dysfunction, diabetes mellitus, hyper- and hypocalcemia, adrenal cortex hyper- and hypofunction, endocrine hypertension, gonadal disorders, hyper- and hyponatremia, certain manifestations of pituitary tumors, disorders of mineral metabolism, and hyperlipidemias. Obesity is not strictly an endocrine disorder but is considered part of the spectrum of endocrinology because it frequently enters into the differential diagnosis of endocrine disease and is a major element in the management of non-insulin-dependent diabetes. Prevention efforts focus on complications of hyperlipidemias, obesity, thyroid dysfunction, and diabetes mellitus and on endocrinologic side effects of pharmacologic glucocorticoids and other medications.

The general internist must be able to evaluate and manage common endocrine disorders and refer appropriately. He or she must also be able to evaluate and identify the endocrinologic implications of abnormal serum electrolytes, hypertension, fatigue, and other nonspecific presentations. The general internist plays a key role in managing endocrine emergencies, particularly those encountered in the intensive care unit, including diabetic ketoacidosis and hyperosmolar nonketotic stupor, severe hyper- and hypocalcemia, and Addisonian crisis.

Clinical Training and Education in Endocrinology, Diabetes and Metabolism

Residents in internal medicine, under the supervision of endocrinology fellows and faculty specialists, participate in the care of both outpatients and inpatients with Endorinologic disease. Residents train as consultants in Endocrinologic medicine. Residents participate in the Encrinology service's didactic and clinical conferences and one month is devoted each year to core didactic instruction in Endocrinologic diseases.

Common Clinical Presentations:

-Asthenia
-Blood lipid disorders
-Breast discharge
-Change in menstrual, gonadal/sexual function
-Diarrhea
-Disorders of pigmentation
-Goiter (diffuse, nodular)
-Hirsutism
-Hypertension refractory to primary therapy
-Hypotension

ORGAN AND SYSTEM COMPETENCIES IN INTERNAL MEDICINE

Clinical Training and Education in Endocrinology, Diabetes and Metabolism (Cont'd):

Common Clinical Presentations (Cont'd)
- -Incidentally discovered abnormalities in serum electrolytes, calcium, phosphate, or glucose
- -Mental status changes
- -Osteopenia
- -Polyuria, polydypsia
- -Signs and symptoms of osteopenia
- -Symptoms of hyper- and hypoglycemia
- -Symptoms of hypermetabolism
- -Symptoms of hypometabolism
- -Urinary tract stone
- -Weight gain, obesity

Procedure Skills:
- -Dexamethasone suppression test (overnight)
- -Home blood glucose monitoring
- -ACTH stimulation test

Ordering and Understanding Tests:
- -Bone mineral analysis (densitometry)
- -Fasting and standardized postprandial serum glucose concentrations
- -Imaging studies of the sella turcica
- -Microalbuminuria
- -Serum alkaline phosphatase activity (for Paget's disease of bone)
- -Serum and urine ketone concentrations (quantitative or qualitative)
- -Serum and urine osmolalities
- -Serum gonadotropin concentrations (follicle-stimulating hormone, luteinizing hormone)
- -Serum lipid profile
- -Serum phosphate concentration
- -Serum prolactin concentration
- -Serum testosterone concentration
- -Serum thyroid function tests
- -Thyroid scanning and ultrasound
- -Urinary calcium, phosphate, uric acid excretion
- -Urinary sodium, potassium excretion
- -Urine metanephrine, VMA (vanillylmandelic acid), and total catecholamine levels

ORGAN AND SYSTEM COMPETENCIES IN INTERNAL MEDICINE

Clinical Training and Education in Endocrinology, Diabetes and Metabolism (Cont'd):

Clinical Conditions:

Adrenal disorders
- -Hypercortisolism
- -Hypoadrenocortisolism, acute
- -Hypoadrenocortisolism, chronic

Bone disorders
- -Osteopenia/osteoporosis
- -Paget's disease of bone

Diabetes mellitus
- -Diabetic ketoacidosis
- -Insulin-dependent diabetes
- -Non-insulin-dependent diabetes

Metabolic disorders
- -Hyperosmolar state
- -Hypoglycemia
- -Hyponatremia/hypernatremia
- -Lipid disorders
- -Obesity

Panhypopituitarism

Parathyroid disorders
- -Hypercalcemia
- -Hyperparathyroidism
- -Hypocalcemia

Reproductive/sexual disorders
- -Change in sexual function
- -Hypogonadism, female menopause
- -Menstrual disorders
- -Galactorrhea
- -Hirsutism/virilization
- -Hypogonadism, male gonadal failure

Thyroid disorders
- -Enlarged thyroid (goiter, nodule)
- -Hyperthyroidism
- -Hypothyroidism