

Ministry of higher education

AL – Ma'amoon University Collage

Anesthesia Department



BASIC IN MEDICINE

(Thyrotoxicosis)

By

Prof. Basil N. Saeed

Thyrotoxicosis

Signs and symptoms

- 1- Nervousness 99%
 - 2- Increased sweating 91%
 - 3- Hypersensitivity to heat 89%
 - 4- Palpitation 89%
 - 5- Fatigue 88%
 - 6- Increased appetite 65%
 - 7- Tremor 97%
 - 8- Splenomegaly 10%
-

Causes of Thyrotoxicosis

Common causes (toxic adenoma, toxic multinodular goiter)

Less common (hashimatosi, subacute thyroiditis)

Rare causes (Struma ovary, metastatic thyroid carcinoma)

Treatment

- 1- Thiocarbamide drugs, propyl thiouracil
- 2- Radioactive iodine (treatment of choice in cerave disease)
- 3- Surgery → failure medical treatment

Clinical feature of hypothyroidism

Children → learning disability, delayed puberty

Adult → Fatigue, cold intolerance, weakness, weight gain, constipation, periorbital oedema, coarse skin, horse voice, brady cardia

Causes of hypothyroidism

- **Primary**

1- Auto immune

2- Iatrogenic I¹³¹

3- Drug → Iodine deficiency, amiodarone, lithium

4- Congenital → thyroid agenesis

- **Secondary**

1- Disease affecting hypothalamus (Neoplasm, sarcoid, T.B)

2- Pituitary dysfunction

Treatment

1- Myxoedema coma → give levothyroxine 300 – 400 µg intravenously followed by 50 µg orally / daily + Hydrocortisone injection 100mgX300

2- Hypothyroid patient (not coma)

Average dose 100-150 µg starting with 25 µg daily increase gradually every two weeks

Adrenal glands

1- Cushing's syndrome causes

a- Excess (ACTH) pituitary adrenocortico trophic hormone leading to bilateral cortical hyperplasia

b- adrenal – adenoma

c- very rarely carcinoma

Treatment → according to the causes

2- Addison's disease

Primary cause (T-B, Autoimmunity, amyloidosis)

Secondary cause → pituitary failure

Cortison acetate 25mg morning and 12.5mg evening + fludrocortisone

0 – 0.5 mg in cases salt depletion .

(Gastro enterology)

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Gastro – enterology

Dysphagia causes

- 1- Mouth and pharynx (Infection , tumour)
- 2- Oesophagus extrinsic (neck and chest tumour, Cardiac effusion, intermisc, muscle disease , tumour, web, stricture)
- 3- Foreign body
- 4- CNS lesion (bulbar, vascular, lesions)

Vomiting causes

- 1- Gastrointestinal lesion (poison)
 - 2- Obstruction (stricture, volvulus)
 - 3- Intra abdominal inflammation (hepatitis appendicitis)
 - 4- Metabolic (DM, uremia)
 - 5- CNS (sever pain, Migrain)
 - 6- Miscellaneous (acute dilatation of stomach , cyclic , vomiting)
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Constipation causes

- | | |
|---------------------------------|------------------|
| 1- Acute and chronic bronchitis | 2- Tuberculosis |
| 3- Bronchieclasis | 4- Lung Cancer |
| 5- Pulmonary embolism | 6- Heart disease |
| 7- Blood diseases | |

Emphysema

- 1- **Localized** (Congenital compensatory)

Partial bronchial occlusion

- 2- **Generalized**

- Idiopathic

- 2ry to chronic bronchitis

- Senile
 - Rarely familial (C1 Antitrypsin Deficiency)
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Industrial chest Disease

- 1- Mineral dust pneumoconiosis (coal , silica)
 - 2- Disease due to organic dust (farmers lung)
 - 3- Industrial gases and fumes (manganse fume , metal fume fever)
 - 4- lung cancer (due to nickel , chrome , asbestos)
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Harmful effect of smoking

- 1- Nicotine effect and adrenalin release
- 2- Bronchial irritation
- 3- Cancer of lung
- 4- Vascular disease (myocardial infarction buerger's)
- 5- Cirrhosis (smoking + alcoholism)
- 6- Fetal growth

Pulmonary fibrosis

Causes :

- 1- Infection => T.B
- 2- Pheumoconiosis (coal dust)
- 3- Hypersensetivity (Farmer's lung)
- 4- Fibrosing alveolitivs (rhemtoid lung disease)

5- Aspiration → Lipoid pneumonitis

6- Cardiac (pulmonary oedema , multiple pulmonary infarct)

7- Neoplastic → lymphangitis carcinomatosa

Pneumothorax causes

1- Trauma 2- iatrogenic

3- Spontaneous (localized , generalized)

a- TB b- lung abscess c- lung cancer d- asthma

Pleural effusion

1- Transudate (less than 2gm protein / 100 ml)

2- Exudate (More than 2g / 100 ml)

(e.g) pneumonia , T.B , Malignancy , abscess , collagen vascular disease

Pneumonia (Parenchymal lung disease)

Types :

1- Community acquired pneumonia

2- hospital acquired pneumonia

Microorganism causing pneumonia

1- Hospital acquired pneumonia (Oral flora , staph aureus , gram – bacilla legionella spp)

2- Community acquired pneumonia

Commonest → strep pneumoniae , influenza Virus

3- Elderly and debilitated person (all the above + M.Tuberculosis)

Chronic disease with pneumonia

Seizure , Alcoholism , DM , Sickle cell disease chronic lung disease, chronic lung disease , chronic renal failure

Exposure associated pneumonia

- 1- Cattle , goats , sheep , → Fever , brucellosis
- 2- birds → psittacosis
- 3- Developing countries Tuberculosis

(Haematology)

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Hematology

Normal values

Red cells (RBC) :

Men : 4.5 – 6.5 million / C.mm

Women : 3.9 – 5.6 million / C.mm

Haemoglobin :

Men : 13.5 – 18.0 g/dl

Women : 11.5 – 16.4 g/dl

Haematocrit (PCV) :

Men : 40 – 54 %

Women : 36 – 47 %

Mean corpuscular volume (Mcv) :

Adult 76-96 C.U or (fl)

Mean corpuscular haemoglobin concentration (MCHC):

Adult 32 – 36 percent (32 – 36 g/dl)

Leucocyto

Adult 4000 – 10000 ($4 - 10 \times 10^9/l$)

Neutrophils 40 – 75 %

Lymphocyte 20 – 50 %

Monocyte 2 – 10 %

Eosinophils 1 – 6 %

Basophils 1%

Platelets 150 – 400.000/lmm

Anemias

1- Normocytic normochromic anemia causes :

1- Acute blood loss

2- Haemolytic crisis

3- Pregnancy

4- Chronic disease

5- Endocrine disease (myxedema)

2- Hypochromic microcytic anemia

Fe deficiency anemia

Causes :

1- Haemorrhage

2- Dietary

3- Malabsorption

3- Haemolytic anemia causes

1- Abnormal RBC membrane

2- Enzyme deficiency

3- Abnormal haemoglobin

4- Extracorporeal immunological

5- Hemolytic cause disease and newborn (Rh or ABO incompatibility)

Megaloblastic anemia

Types and Causes

1- Folate deficiency

a- Inadequate diet

b- Malabsorption

c- Increased demand (pregnancy, increased cell turnover)

d- antilytic drugs (Methotrexate)

2- B12 deficiency

a- Malabsorption (lack of intrinsic factor)

b- Specific B12 malabsorption (ileal resection)

c- B12 utilization by bacteria or parasite

3- With normal folate and B12

a- Aplastic anemia

b- liver disease

c- Cytotoxic drug hydroxyureas

Leuco paenia (neutropaenia < 2500 neutrophils)

Causes :

1- Infection (viral, Bacterial)

2- Drugs → Thiouracil

3- Myxoedema , Thyrotoxicosis

4- Cirrhosis and alcoholism

4-Leuco cytosis > 10.000 lamm

Causes :

1- Infection

2- Haemorrhage

3- Trauma

4- Myelo proliferative disease

5- Malignancy

6- Myocardial infarction

7- Drugs steroid, digoxin, adrenaline

8- Collage vascular disease

9- Metabolic renal failure gout diabetic coma

5- Lympho cytosis (> 3500 / cumm)

1- Infection viral infectious mononeuclosis

2- Protozal toxoplasmosis

3- Lymphatic leukemia

4- Thyrotoxicosis, carci

6- Polycythemia causes

Absolute

1- Idiopathic

2- 2 ry (hypoxic)

3- Erythropieten (Kideny disease tumour)

4- Relative (dehydration)

7- Splenomegaly Causes

1- Infection Viral, Bacterial, Fungal

2- Blood dyscrasia (Leukaemia)

3- Malignant

4- Portal hypertension

5- Benign tumour or CYST

8- Abnormal bleeding

- 1- Platelets defect (Thrombocytopenia $< 150.000 / \text{CUMM}$)
- 2- Platelets decreased production
- 3- Increased survival
- 4- Increased Consumption
- 5- Hypersplenism
- 6- Loss \rightarrow massive haemorrhage

Thrombocytosis ($> 400.000/\text{CUMM}$)

- 1- Haemorrhage
- 2- Trauma
- 3- Myeloproliferative disorder
- 4- Occasionaly Ca, lymphoma, TB

9- Vessel defects

- A- Congenital (Ehler danlos)
- B- Acquired
 - 1- Infection bacterial endocarditis
 - 2- Drugs \rightarrow steroid
 - 3- Systemic disease (Cushing, scurvy, uremia, DU)

4- Vasculitis

5- Dermatosis

6- Senile purpura

10- Coagulation defects

- i. Fibrinogen
- ii. Prothrombin
- iii. Platelets lipids
- iv. (Ca ++)
- v. Proaccelerin
- vi. .
- vii. Proconvertin
- viii. Antihæmophilic globin
- ix. Christmas factor
- x. Stuart – power
- xi. Plasma – thromboplastin time (PTA)
- xii. Fibrin Stabilizing factor

11- Hypoprothrombinaemia

Causes

- 1- Vitamin K deficiency
- 2- Liver disease
- 3- Drugs vitamin K antagonist
- 4- Carcinomatosis

5- Congenital (very rare)

12- Complication of blood transfusion

1- Febrile reaction

2- Allergic reaction

3- Hemolysis

4- Disease transmission (S-hepatitis)

5- Thrombophlebitis

6- Air embolism

8- Excess citrate ammonia

9- Thrombocytopenia after massive transfusion

10- Development of circulating anticoagulating (AHC) antibodies.

(Nervous System)

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Nervous system

Majority of cerebral diseases are vascular in origin

Types :

- 1- Complete stroke
- 2- Progressing stroke
- 3- Transient ischemic syndrome

4- Miscellaneous (Dementia, Convulsion)

5- Coma (Cerebral hemorrhage, Thrombosis, Subarachnoid hemorrhage)

Par paresis → weakness of both legs

Paraplegia → paralysis of both legs

Causes :

1- Trauma

2- Cervical spondylosis

3- Tumour cord compression

4- Ischemia

Headache

1- Raised intracranial pressure

2- Extra cranial disease

3- Vascular (Hypertension, Migraine, giant cell arteritis)

4- Meningitis

5- Psychogenic

Definitions / تعاريف

1- Dysphasia :- Disorder in use of symbols for communication whether (spoken, heard, written, or read)

- 2- Apraxia:- Inability to carry out purposive movement in absence of motor paralysis, sensory loss or ataxia
- 3- Agnosia:- Failure to recognize whether visual auditory or tactile
- 4- Perseveration:- Continuation or recurrence of an activity without an appropriate stimulus
- 5- Verbigeration:- Meaningless repetition of word
- 6- Epilepsy:- paroxysmal transient disturbances brain function
- 7- Fibrillation:- Spontaneous contraction of individual fiber
- 8- Fasciculation :- Spontaneous contraction of bundles of fibers
- 9- Amaurosis blindness from any cause
- 10- Amblyopia poor vision not due refractive or ocular disease

Epilepsy

Causes :

- 1- Idiopathic
- 2- Focal lesion

3- Trauma

4- Vascular

5- Degenerative → prechensile dementia

6- Metabolic (Hypoglycemia, uremia, hepatic coma)

7- Pyrexia

8-Drugs → Xylocaine, alcohol

Causes of Tremor

1- Parkinson

2- Cerebellar lesion

3- Anixty

4- Thyrotoxicosis

5- Alcoholism

6 – Drugs → Tricyclic antidepressant

7- Familial

8- Neuro syphilis

9- Metal → mercury

Classification of muscle disease

1- Myositis

2- Toxic (alcohol)

- 3- Endocrine (hyper and hypothyroidism)
 - 4- Carcinomatous myopathy
 - 5- Muscle dystrophy
 - 6- Glycogen storage disease
 - 7- Atrophy
-

Causes of peripheral neuropathy

- 1- Idiopathic
- 2- Metabolic (DM, Amyloidosis)
- 3- Vitamin deficiency (B1, B6, B12)
- 4- Infection → Brucellosis
- 5- Drugs → Isoniazid, vincristine
- 6- Malignancy
- 7- Auto immune disease
- 8- Mechanical trauma, compression
- 9- Congenital

Vertigo causes

- 1- Vascular → Thrombus, hemorrhage
- 2- Viral

- 3- Drugs quinine salicylate
 - 4- Otitis Media
 - 5- Motion sickness
 - 6- Tumour (acoustic neuroma)
 - 7- Post traumatic positional vertigo
-

Giddiness causes

- 1- Anemia
 - 2- Hypo or hypertension
 - 3- Hypoglycemia
 - 4- Migraine
 - 5- Psychogenic
-

Coma causes

- 1- Injury 2- Epilepsy 3- Drugs (alcohol) 4- Metabolic uremia (DM)
- 5- Vascular → Thrombus 6- Space occupying lesion
- 7- Infection (Meningitis, Malaria) 8- Hysteria 9- Hypo or hyperthermia

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(Renal System)

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Renal system

Proteinuria causes

- 1- Urinary tract infection
- 2- Other static proteinuria
- 3- Intrinsic renal disease (glomerulonephritis, Chronic interstitial nephritis)
- 4- Drugs (Analgesic)

5- Systemic disease (AM, Fever, Congestive, Cardiac failure, Amyloidosis, Myelomatosis)

Hematuria causes

- 1- Infection
 - 2- urinary calculi
 - 3- Tomour
 - 4- Renal disease (Glomeruaonephritis) (Polycystic disease)
 - 5- Trauma
 - 6- Blood dyscrasia
-

Urinary Calculi types

- 11- Calcium Oxalate (Radio dense)
- 2- Calcium phosphate (Radio dense)
- 3- Magnesium ammonium phosphate (Radio dense)
- 4- Uric acid calculi (Radio lucent dense)
- 5- Cysteine calculi (low radio density)

Polyuria causes

- 1- Diabetun mellitus
- 12- Chronic renal failure
- 13- Diuretic therapy
- 14- Hypercalcaemia or Hypokalaemia
- 15- Diabetus inspidus
- 16- Hysterical polydipsia

The renal mass causes

- 1- Hydronephrosis
 - 2- Cystic kidney disease
 - 3- Tumour
 - 4- External mass
-

Chronic renal failure causes

- 1- Chronic interstitial nephritis
- 2- analgesic abuse
- 3- Chronic glomerulonephritis
- 4- Hypertension
- 5- Obstructive uropathy
- 6 - Chronic calculus disease
- 7- Systemic disease (DM, Amyloidosis, polyarthritis nodosa, SLE)
- 8- Polycystic disease
- 9- Hereditary nephritis

Problems in chronic renal failure

- 1- Itching
- 2- Nausea
- 3- Diarrhea
- 4- Bleeding

- 5- Skeletal pain
 - 6- Peripheral neuropathy
 - 7- Oedema
 - 8- Mental disturbance (Confusion , coma)
-

Acid base balance types

- 1- Respiratory acidosis (low PH, high CO₂)
 - 2- Respiratory alkalosis (high PH, low CO₂)
 - 3- Metabolic acidosis (low PH, low CO₂)
 - 4- Metabolic alkalosis (low PH, high CO₂)
-

Nephritic syndrome causes

- 1- Glomeulonephritis
- 2- Metabolic (DM)
- 3- Collagen vascular disease
- 4- Infection Cytomegalovirus, bacterial endocarditis)
- 5- Mechanical (Renal artery stenosis, renal vein thrombosis)
- 6- Toxin and drugs (pencil amine, bee sting)
- 7- Congenital familial

Finished

DIABETES MELLITUS

TYPES (TYPE 1 & TYPE 2)

Examination of diabetic patient

1- Vascular → recording the peripheral

Changes → gangrene

2- Retinopathy → blindness

3- Autonomic Neuropathy Cdiarrh

4- Nephropathy → renal failure

5- peripheral Neuropathy → gait

In any diabetic patient exclude the following

1- Thiazide

2- Steroid

3- Haemo chromatosis

4- Acromegaly

5- Cushing syndrome

Manogment of DM

1- Dietary

2- Phenformin (biguanide)

3- Sulphonylurea group

4- a-glycosidase inhibitors

5- Thiazolidines

6- Meglitinides

7- Insulin

Criteria for diagnosis of DM

	Normal	DM
1- Fasting plasma glucose	< 110 mg/dl	≥ (261 g)
2- 2h post load glucose	< 140 mg/dl	≥ (200g)

Types of insulin

	<u>On set (hr)</u>	<u>Duration (hr)</u>
Rapid acting -----	0.2 - 0.5	< 5
Short acting -----	0.2 - 1	< 16
Intermediate acting -----	1 - 3	16 - 26
Long acting -----	4 - 6	14 - 36

Sign × Symptoms of hypoglycemia

Neurogenic (Sweating, palpitation, Trevor)

Neuroglycopenic (warmth, headache, confusion, amnesia)

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BASIC IN MEDICINE

(Respiratory System)

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Respiratory System

Hypoventilation causes

- 1- Respcentre depression (Drug anoxid)
(trauvra) (raised intracranial pressure)
(primary alveolar Hypoventilation) (obesity)
 - 2- Neuro – Muscular disease
 - 3- Limited thoracic Movement (kyphosis)
 - 4- Limited emphysema lung Movement (essusion)
 - 5- Lung diseases (pneumonia , obstruction)
-

Hypoventilation

- 1- anxiety
 - 2- Metabolic acidosis
 - 3- Drugs salicylate
 - 4- CNS lesion Meningitis encephalitis
 - 5- Gas irritation
-

Haemyptosis Causes

- | | |
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