COMMON CASES IN FAMILY MEDICINE

For Medical Students & House Officers

BY

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THE STETHO
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EST. 2020

ACKNOWLEDGEMENT

Foremost, we are thankful to God for the good health and wellbeing that were necessary to complete this Book and present a clear picture of what has been done during the book completion. After this we would like to express our sincere gratitude to **THE STETHO medical Publishing forum** to provide me with an opportunity to share my knowledge and add something meaningful to the medical literature.

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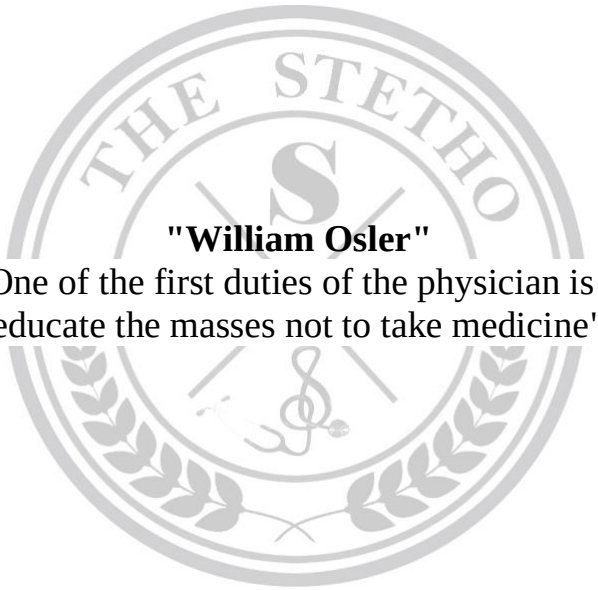

"William Osler"

" One of the first duties of the physician is to educate the masses not to take medicine"


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CASE 1

A 40 YEARS OLD MAN WITH CHEST PAIN

Scenario: A 40 years old teacher visits your clinic for complaints of acute chest pain. He has previous such episodes occurring on and off for the last 8 months but this time the pain is persistent for the last 5 hours. He is in the ED for further evaluation.

HISTORY

1. Evaluate Pain: As a physician your primary concern in this patient should be to identify the chest pain of cardiac origin.

- Site.
- Onset.
- Character.
- Radiation.
- Associated symptoms.
- Timing/duration.
- Exacerbating factors.
- Severity.

2. It is important to elicit a prior history of angina. Many patients will describe exertional chest pain in the weeks preceding presentation. With angina or an acute coronary syndrome (ACS) the pain usually builds to a maximum over a few minutes rather than reaching its maximal intensity instantaneously.

3. Pain due to myocardial infarction may be associated with one of following features:

- Sweating.
- Nausea.
- Vomiting.
- Breathlessness.
- Dizziness.

4. A Past Medical History of Stroke, Claudication, Angina or previous Myocardial Infarction.

5. Past history of Hypertension or Chronic Renal Failure.

PHYSICAL EXAM

The presence of a tachycardia and hypertension are not particularly helpful if the patient is in pain or anxious. The clinical examination in patients with angina or ACS is often normal. The following should be looked for:

- Arcus senilis – hypercholesterolemia (in patients under 50 years).

- Fundoscopy – hypertensive changes.
- Xanthelasma – hypercholesterolemia.
- Elevated JVP – heart failure.
- Carotid bruits – high probability of coexisting coronary disease.
- Cardiomegaly – heart failure.
- Hypertrophied apex beat – hypertension or aortic stenosis (AS). • Systolic murmur – AS or hypertrophic cardiomyopathy (HOCM) can give rise to angina.
- Diastolic murmur – aortic regurgitation (AR) associated with a type A dissection.
- Pericardial friction rub – pericarditis.
- Abdominal aorta – aortic bruit or aneurysm associated with generalised vascular disease.

- Femoral arteries/foot - pulses, evidence of peripheral vascular disease associated with coronary disease.

INVESTIGATIONS

1. Blood Tests: The following standard investigations would be helpful:

- Full Blood Count (FBC).
- Electrolytes.
- Blood Glucose.
- Renal Function.
- Thyroid Function.
- Troponin/Creatinine kinase.
- Fasting Lipid Profile and Glucose.

2. Radiological Investigations:

- ECG
- Chest X-ray
- Echocardiogram

DIFFERENTIALS

Angina pectoris

Acute myocardial infarction

Esophageal pain (reflux, spasm, inflammation)

Musculoskeletal

Pulmonary embolic disease

Cervical root compression

Aortic dissection

Chest wall pain

Pancreatitis

Cholecystitis

Anxiety disorders

MANAGEMENT

The treatment and management should be aimed relieving the symptoms of Cardiac Pain and preventing further Myocardial Injury.

- Oxygen.
- Aspirin 300 mg orally, followed by 75 mg daily.
- Sublingual or intravenous GTN if in pain.
- Clopidogrel 300 mg orally, followed by 75 mg daily.
- Low - molecular - weight heparin (weight adjusted).
- Beta blockade.
- IIb/IIIa antagonists.
- Statin therapy.
- Insulin infusion.

CASE 2

PHARYGITIS/TONSILLITIS

HISTORY

- Most common presentation is usually of a child in school going age.

- Complains of sore throat, fever, and painful swallowing occasionally with fever that may have persisted for a couple of days.

PHYSICAL EXAM

- Sore throat, fever and cervical lymphadenopathy.
- Pyrexia, difficulty in swallowing.
- The main concern is determining who is likely to have a group A beta-hemolytic streptococcal (GABHS) infection, since this can lead to subsequent complications, such as rheumatic fever and glomerulonephritis.
- The clinical features most suggestive of GABHS pharyngitis include fever over 38°C, tender anterior cervical adenopathy, lack of a cough, and pharyngo-tonsillar exudate.
- These four features (the Centor criteria), when present, strongly suggest GABHS.

MANAGEMENT

- Inj/TabZinacef (cefuroxime) 250 mg twice daily for 5—10 days “OR”
- TabOrelox (cefpodoxime) 100mg, twice daily for 5-10 days “OR”
- TabAzomax / Macrobac (500mg) once daily for 3-S days “OR”
- TabAugmentin/Amclave (Amoxicillin + Clavulanic Acid) 625mg PO x TDS for 5 days.
- Enziclor / Lasogen / Benzycol (Chlorhexidine) mouth wash 2-3 times a day for a week “OR” Warm saline gargles. Tab-Panadol (paracetamol) 2 tablets PO x SOS
- Plenty of fluids to avoid dehdration.

CASE 3

OTITIS EXTERNA

Otitis externa is inflammation / infection of external ear.

HISTORY

Patient usually present with ear pain, discharge and itching. Sometimes they may even complain of hearing loss and fever. The ear is usually very tender to touch and warm.

PHYSICAL EXAM

- Painful erythema and edema of the ear canal skin.
- Diffuse inflammation of ear canal with crusts and discharge from ear.
- In diabetic or immunocompromised patients, osteomyelitis of the skull base ("malignant external otitis") may occur.

MANAGEMENT

- Protect the ear from additional moisture and avoid further mechanical injury by scratching.
- Clean ear with cotton wick.
- When infected, prescribe an otic solution of antibiotic with or without a corticosteroid.

- Dexatob (Dexamethasone + tobramycin) “OR” Dexcip (Dexamethasone + ciprofloxicin) ear drops, 5 drops x TDS or QID for 5 to 7 days.

- Purulent debris filling the ear canal should be removed to permit entry of the topical medication.

- Apply local dressing with ichthammol glycerin for 24 to 48 hours if there is swelling.

- When cellulitis of the periauricular tissue has developed, prescribe oral flouroquinolones (effective against Pseudomonas).

- Tab Ciproxin / Novidat / Cipval (ciprofloxacin) 500mg PO x BD for 1 week. Treatment of “malignant external otitis” requires prolonged antipseudomonal antibiotic administration, often for several months.

- Inf Novidat/ Cipval (ciprofloxacin) 200-400mg IV x BD for 1 week then TabCiproxin / Novidat / Cipval (ciprofloxacin) 500-1000mg PO x BD.

- To avoid relapse, antibiotic therapy should be continued, even in the asymptomatic patient, until gallium scanning indicates marked reduction or resolution of the inflammation.

- Surgical debridement of infected bone is reserved for cases of deterioration despite medical therapy.

CASE 4

TINNITUS

CLINICAL FEATURES

- Perception of abnormal ear or head noises.

- Persistent tinnitus often, though not always, indicates the presence of sensory hearing loss.

- Intermittent periods of mild, high-pitched tinnitus lasting seconds to minutes are common in normal-hearing persons. Exclude serious causes like acoustic neuroma and reassure the patient.

MANAGEMENT

- The most important treatment of tinnitus is avoidance of exposure to excessive noise, ototoxic agents, and other factors that may cause cochlear damage.

- Masking the tinnitus with music or through amplification of normal sounds with a hearing aid may also bring some relief. Clear the ears, if there is wax.

- Tab-Sensival /Motival (Nortroptyline) 50 PO x OD at bed time for a month.

CASE 5

ALLERGIC RHINITIS

HISTORY

Symptoms of allergic rhinitis include itching, sneezing, nasal discharge, loss of smell, headache, earache, congestion, increased lacrimation and red eyes, along with systemic symptoms such as drowsiness and malaise.

CLINICAL FEATURES

- Clear rhinorrhea, sneezing, tearing, eye irritation, and pruritus.
- Associated symptoms include cough, bronchospasm, and eczematous dermatitis.
- Environmental allergen exposure in the presence of allergen specific IgE.

MANAGEMENT

- Avoid dust and known allergens.
- Intranasal corticosteroid sprays remain the mainstay of treatment of allergic rhinitis. Available preparations include

beclomethasone, flunisolide, mometasone, budesonide and fluticasone. Use anyone of them.

1. Beconase (Beclomethasone) 50mcg nasal spray, 2 sprays in each nostril BD. OR
2. Fluni / Tarisin (flunisolide) nasal spray, 2 sprays in each nostril BD. OR
3. Hivate (Mometasone furoate) 50mcg nasal spray 2 sprays in each nostril OD. OR
4. Pulmicort (Budesonide) 50 mcg nasal spray 2 sprays in each nostril BD. OR
5. Ticovate (Fluticasone) 50 mcg nasal spray 2 sprays in each nostril BD.

- Tab-Lorin-NSA / Softin (Loratidine) 10mg PO x OD at night "OR"
- Tab-Kestine (Ebastine) 10mg PO x OD at night "OR"
- TabFexet (Fexofenadine) 120mg PO x OD at night
- TabMontika / Montiget (montelukast) 10mg PO x OD at night.
- Atem (ipratropium 0.06%) nasal spray, 2-3 sprays every 8 hours as needed.

CASE 6

EPISTAXIS

Bleeding from a unilateral anterior nasal cavity most common.

MANAGEMENT

- Most cases of anterior epistaxis may be successfully treated by direct pressure on the site by compression of the nares continuously for 15 minutes. Venous pressure is reduced in the sitting position, and slight leaning forward lessens the swallowing of blood,
- Xynosine (xylometazoline) Nasal drops/spray, 2 in each nostril
- When the bleeding does not readily subside,
- The nose should be examined, using good illumination and suction, in an attempt to locate the bleeding site.
- If bleeding persists, anterior nasal packing of nose with ribbon gauze soaked In liquid paraffin and lidocaine (Lignocaine).
- When visible, the bleeding site may be cauterized with silver nitrate, diathermy, or electrocautery.
- About 5% of nasal bleeding originates in the posterior nasal cavity, commonly associated with atherosclerotic disease and hypertension. In such cases, it may be necessary to consult an otolaryngologist

for a pack to occlude the choana before placing a pack anteriorly.

- REFERRAL TO EMERGENCY: In emergency settings, double balloon packs (Epistat) may facilitate rapid control of bleeding with little or no mucosal trauma. Because such packing is uncomfortable, bleeding may persist, and vasovagal syncope is possible, hospitalization for monitoring and stabilization is indicated. Posterior nasal packing is quite uncomfortable and may require an opioid analgesic for pain control.

- Surgical management of epistaxis, through ligation of the nasal arterial supply (internal maxillary artery and ethmoid arteries) is indicated when direct pressure and nasal packing fail. The most common approach to surgical treatment is endoscopic sphenopalatine artery ligation.

- After control of epistaxis, the patient is advised to avoid straining and vigorous exercise for several days. Nasal saline

should be applied to the packing frequently to keep the packing moist. Avoidance of hot or spicy foods and tobacco is also advisable, since these may cause nasal vasodilation.

- Avoiding nasal trauma, including nose picking, is an obvious necessity.
- Lubrication with liquid paraffin and increased home humidity may also be useful ancillary measures.
- Cap Ceporex (cephalexin) 500 mg Po x QID "OR" Cap-Dalacin-C (clindamycin) 150mg PO x QID (to reduce the risk of toxic shock syndrome developing while the packing remains in place (at least 5 days).

- GP CLINIC: Patients with recurrent epistaxis, large-volume epistaxis and episodic epistaxis with associated nasal obstruction should be referred to an otolaryngologist for endoscopic evaluation and possible imaging.
- Those with ongoing bleeding beyond 15 minutes should be taken to a local emergency department if the clinician is not prepared to manage acute epistaxis.

CASE 7

HEART FAILURE

HISTORY

This condition often presents with breathlessness especially after activity and/or edema. Patients often complain of tiredness and inability to do exercise, occasionally with a feeling of fainting.
Assay of B-type natriuretic peptide (BNP), which is elevated in heart failure, can aid in the distinction of heart failure from a number of other conditions such as asthma, acute coronary syndrome, chronic obstructive pulmonary disease, or pulmonary embolism, which can also present with dyspnea or edema.
According to NICE guidelines, if ECG and B-type natriuretic peptide are normal, heart failure is unlikely, and an alternative diagnosis should be considered; if either is abnormal, then echocardiography is required.

SYSTOLIC HF VS DIASTOLIC HF

Systolic Heart Failure Diastolic Heart Failure
Inability of the ventricle + Inability of the ventricle to relax to contract normally, and fill

normally, causing filling resulting in {cardiac pressures. EF is >50%. output. Ejection “Causes: constrictive pericarditis fraction (EF) is <40%, tamponade, restrictive Causes: IHD, Mi, cardiomyopathy, hypertension"

STAGE SEVERITY OF HEART FAILURE FOR CHRONIC THERAPY DECISION MAKING (ACC/AHA guidelines)

STAGE A
At risk for HF, without structural heart disease and asymptomatic

STAGE B
Evidence of structural heart disease (i.e., reduced ejection fraction, left ventricular hypertrophy, chamber enlargement) Who have not yet developed symptoms of heart failure.

STAGE C
Structural heart disease WITH symptoms of HF

STAGE D

Refractory disease requiring advanced intervention, including Biventricular pacemaker, IVAD, transplant.

NYHA (NEW YORK HEART ASSOCIATION) CLASSIFICATION

- Class 1 No limitation of physical activity; ordinary physical activity does not cause fatigue, palpitations, dyspnea
- Class 2 Slight limitation of physical activity; asymptomatic at rest, but ordinary physical activity causes symptoms
- Class 3 Marked limitation with physical activity, remains asymptomatic at rest
- Class 4 Unable to carry on any physical activity; symptomatic at rest.

HEART FAILURE WITH REDUCED EJECTION FRACTION

Propped up position + Oxygen inhalation stat if SPO2 < 92%

When fluid retention is mild
Tab Metxone (metolazone) 5 mg, 1 tab PO x OD
Patients with more severe heart failure should be treated with % Tab Lasix (Furosemide) 20-40mg, 1-4 tab PO x BD "OR"

Tab Spiromide-40 (Spironolactone + furosemide) 50/40 mg, 1-2 tab PO x OD "OR"
Inj Lasix (Furosemide) 20-120 mg IV x BD.
Tab Carveda (Carvideolol) 25mg, 1 tab PO x OD, if beta blockers are contraindicated use, Tab Sivab (Ivabredin) 5mg, 1 tab PO x BD with meals.

HEART FAILURE WITH PRESERVED EJECTION FRACTION

Treat reversible causes like hypertension, pericardial disease, atrial tachycardia etc.

Manage fluid overload with diuretics.
Tab-Metxone (metolazone) 5 mg, 1 tab PO x OD "OR"

TabSpiromide-40 (Spironolactone + furosemide) 50/40 mg, 1-2 tab PO x OD “OR”
Inj Lasix (Furosemide) 20-120 mg IV x BD. Tab Carveda (Carvedilol) 25 mg, 1 tab PO x OD

ACUTE PULMONARY EDEMA WITH HEART FAILURE

Propped up position + Oxygen inhalation stat if SPO2 < 92%

Inj-Morphine sulphate 2-8mg, IV x stat and may be repeated afte? 2-4 hours.
Inj Lasix (Furosemide) 20-120 mg IV x BD. Tab Angised 0.5mg S/L x stat then SOS
Ventolin Nebulization P/N x stat (for bronchospasm but it ca4 provoke tachycardia).

Tab Carveda (Carvideolol) 25mg, 1 tab PO x OD
Tab Ramipace / Tritace (Rimipril) 1.25-Smg, 1 tab PO x OD “OR”

Tab Losanta (losartan) 50 mg, 1 tab PO x OD

If the patient is unable to tolerate ACEls or ARBs usE Tab-Monis (Isosorbide Mononitrate) 20 mg 1 tab PO x BD (Don' use if SBP > 90 mmHg) "OR" Tab Hydralazine 25mg 1 tab PO x BP

CASE 8

HICCUPS

GENERAL FEATURES

Characteristic sound produced by involuntary contraction of diaphragm terminated by sudden closure of the glottis.

Phrenic nerve irritation, Esophageal Ca, lung cancer, thoracic surgery Diaphragmatic irritation, lower lobe pneumonia, Empyema, diaphragmatic hernia ,sub phrenic abscess, gastric distension.
CNS causes meningitis, CNS tumor, intracranial hemorrhage, brain stem stroke, encephalitis.
Others: uremia, GERD, insomnia, emotional distress treatment treat the underlying cause symptomatic relief.

MANAGEMENT

Non-pharmacological treatment includes direct pharyngeal and uvular stimulation, Valsalva's manoeuvre, Carotid sinus massage, Digital rectal examination, Digital ocular globe pressure, hyperventilation, breath holding, pulling the knee up to chest, leaning forward, mental distraction etc.

PHARMACOLOGICAL TREATMENT:

Go for one of the following in the given sequence

Inj Metomide (metoclopramide) 10mg iv x stat then TDS or tab/sypmetomide 5/10mg 1 tab PO TDS

Mix inj Xylocain (lignocaine) in syp-mucain (aluminium hydroxide + Mg oxides + oxethazaine) and give it orally

Inj largectil/ Sedectil (Chlorpromazine) 25mg, 1/M stat then TDS "OR" Tab/ Syp-largectil/ Sedectil 25mg, PO x TDS.

TabBaclin / Beclotab (baclofen) 10mg, 1 tablet PO x TDS

Treat the underlying cause if possible.

CASE 9

FOOD POISONING

HISTORY:

History of eating something expired or some impure food, complaining of abdominal pain, vomiting and diarrhea.

INVESTIGATIONS:

Stool R/E and need through evaluation in case of chronic diarrhea.

MANAGEMENT

Give ORS again and again
Inf Novidat (ciprofloxacin) 100ml IV x BD
Inf Flagyl (metronidazole) IV x TDS (if blood or mucous in stools)
Inf Ringer lactate 500-11 IV x stat, if patient is dehydrated then calculate according to status of dehydration.
Inj No-spa (drotaverine) IV SOS if patient complain of abdominal pain
Inj Gravinate (dimenhydrinate) if patient vomiting

Home treatment: When patient is vitally stable and hydrated Advice soft food for 3-4 days and use clean water

Tab Novidat (ciprofloxacin) 500mg BD for 6 days

Tab no-spa (drotaverine) 1 tab PO x SOS

ORS sachet if chronic diarrhea or diarrhea due to drugs then Smecta sachets for 3 days.

CASE 10

IRRATABLE BOWEL SYNDROME

HISTORY:

The symptoms are often present for a very long time. Commonly they include abdominal pain, cramping and bloating, usually which is related to bowel movement.

FEATURES:

- IBS is characterized by chronic (more than 3 months) abdominal pain that occurs in association with altered bowel habits.
- Symptoms usually begin in late teens to early twenties.
- Limited evaluation to exclude organic causes of symptoms.

MANAGEMENT:

Offer reassurance, education, and support to the patient.

Fatty foods, alcohol, caffeine, spicy foods, and grains are poorly tolerated by many patients with irritable bowel syndrome and should be avoided

Tab Colofac / Mebever (mebeverine) 135mg, 1 tab PO x TDS “OR” Tab Anapaz/ Acupaz (hyoscamine) 125mcg 1 tab PO x SOS (for pain relief)

Diarrhea predominant: Cap Imodium (loperamide) 2mg 2 capsules PO x stat then one capsule after each episode of loose motion.

Actiflor Sachet 250mg PO x BD “OR” Hidrasac sachet, 1 sachet PO x BD or TDS 1 week.

Constipation predominant: Syp Laxoberon 2TSF PO x TDS (for constipation).

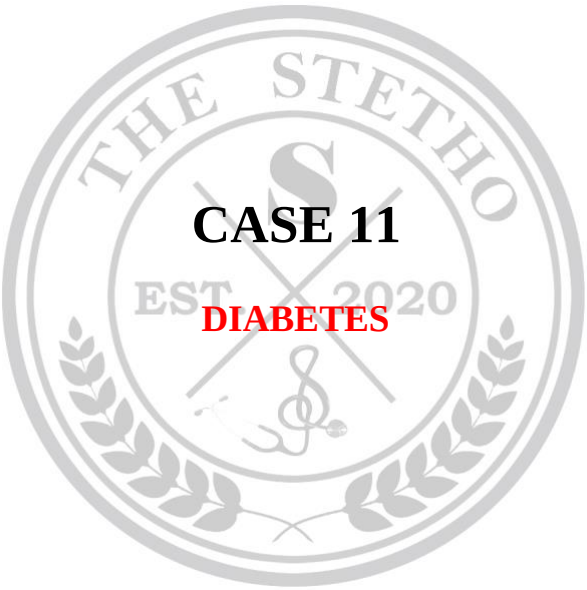
Tab Tofranil (Imipramine) 25mg, % tablet initially then 1 tablet PO x OD at night for 1 month then adjust accordingly You can also prescribe SSRI

Tab Citanew (escitalopram) 10mg PO x OD “OR”

Tab Reline / Freedep (sertraline) 50-100mg, 1 tab PO # OD “OR”

Tab Prozac/ Depricap (fluoxetene) 20mg, 1 tab PO x OU “OR’

Tab Seroxate CR (peroxaetine)20mg, % tab PO x OD for 9 da sthani POxOD



CASE 11

DIABETES

HISTORY: Diabetes mellitus is a syndrome of chronic hyperglycemia due to relative insulin deficiency, resistance or both.

WHO DIAGNOSTIC CRITERIA FOR DIABETES MELLITUS

Fasting blood glucose > 7.0 mmol/L (126 mg/dL). Random blood glucose > 11.1 mmol/L (200 mg/dL). One abnormal value is diagnostic in symptomatic individuals; two values are needed in asymptomatic people. The glucose tolerance test is required for borderline cases and for diagnosis of gestational diabetes.
HbA1c>6.5 (48 mmol/L).

Polyuria, polydipsia, + Many patients are over 40 years of and weight loss with age and are obese. random plasma + Polyuria and polydipsia. Ketonuria glucose of 200 mg/dL and weight loss are uncommon at (11.1 mmol/L). time of diagnosis. Candida vaginitis + Plasma glucose of 126 may be an initial manifestation. 126 mg/dL (7.0 mmol/L or Plasma glucose of126 mg/dL)

after an overnight fast on more than one overnight fast, occasion. Two hours after 75 g oral documented on more glucose, diagnostic values are 200 than one occasion. mg/dL (11.1 mmol). + Ketonemia, ketonuria, + HbA1c2 6.5%. or both. + Hypertension, dyslipidemia, and + Islet autoantibodies atherosclerosis are often associates

Glycemic Index: The glycemic Index of a carbohydrate containing food ls determined by comparing the glucose excursions after consuming 50 g of test food with glucose excursions after consuming 50 g of reference food (white bread)

Eating low glycemic Index foods results In lower glucose levels after meals. Low glycemic index foods have values of 55 or less and include many fruits, vegetables, grainy breads, pasta, and legumes.

High glycemic index foods have values of 70 or greater and include baked potato, white bread,

and white rice. Glycemic index is lowered by the presence of fats and protein when food is consumed in a mixed meal. Even though it may not be possible to accurately predict the glycemic index of a particular food in the context of a meal, it is reasonable to choose foods with low glycemic index.

STEPS IN THE MANAGEMENT OF THE DIABETIC PATIENT

DIAGNOSTIC EXAMINATION

An attempt should be made to characterize the diabetes as type 1 or type 2 or other specific types such as MODY, based on the clinical features present and on whether or not ketonuria accompanies the glycosuria.

Features that suggest end-organ insulin insensitivity to insulin, such as visceral obesity, acanthosis nigricans, or both, must be identified.
The family history should document not only the incidence of diabetes in other members of the family but also the age at onset, association with

obesity, the need for insulin, and whether there were complications.

Many patients with newly diagnosed type 1 diabetes still have significant endogenous insulin production, and C peptide levels do not reliably distinguish between type 1 and type 2 diabetes.
Factors that increase cardiac risk, such as smoking history, presence of hypertension or hyperlipidemia, or oral contraceptive pill use, should be recorded.

Laboratory diagnosis of diabetes should document fasting plasma glucose levels above 126 mg/dL (7 mmol/L) or postprandial values consistently above 200 mg/dl (11.1 mmol/L) or HbA1c of at least 6.5% and whether ketonuria accompanies the glycosuria, An HbA1c measurement is also useful for assessing the effectiveness of future therapy.

Baseline values include fasting plasma triglycerides, total cholesterol and HDL cholesterol, electrocardiography, kidney function

studies, peripheral pulses, and neurologic, podiatric. and ophthalmologic examinations to help guide future assessments

PATIENT EDUCATION (Self-Management Training)

Since diabetes Is a lifelong disorder, education of the patient and the family is probably the most important obligation of the clinician who provides care. The best persons to manage a disease that is affected so markedly by daily fluctuations in environmental stress, exercise, diet, and infections are the patients themselves and their families.

The "teaching curriculum" should include explanations by the clinician or nurse of the nature of diabetes and its potential acute and chronic hazards and how they can be recognized early and prevented or treated. Self-monitoring of blood glucose should be emphasized, especially in insulin requiring diabetic patients, and

instructions must be given on proper testing and recording of data.

Patients and Signs and symptoms of hypoglycemia: their families Dizziness, unceasing hunger, tremors, and tachycardia, pallor, sweating, lethargy, should be anxiety, blurred vision, headache, difficulty taught to speaking, confusion, irritability, convulsions, recognize signs and coma if not treated on time. and symptoms of hypoglycemia and how to treat low glucose reactions.

Strenuous exercise can precipitate hypoglycemia, and patients must therefore be taught to reduce their insulin dosage in anticipation of strenuous activity or to take supplemental carbohydrate.

Infections can cause insulin resistance, and patients should be instructed on how to manage the hyperglycemia with supplemental rapidly acting Insulin.

Advice on personal hygiene, including detailed Instructions on foot and dental care, should be provided.

THERAPY:

Treatment must be individualized on the basis of the type of diabetes and specific needs of each patient. However, certain general principles of management can be outlined for hyperglycemic states of different types.

CASE 12

TYPE I DIABETES

A combination of rapidly acting insulin analogs and long acting insulin analogs allows for more physiologic insulin replacement.

Insulin glargine or insulin degludec is usually given once in the evening to provide 24-hour coverage.

There are occasional patients in whom insulin glargine does not last for 24 hours, and in such cases, it needs to be given twice a day.

Insulin detemir usually has to be given twice a day to get adequate 24-hour basal coverage. Alternatively, small doses of NPH (~3-4 units) can be given with each meal to provide daytime basal coverage with a larger dose at night.

The 24-hour basal dosage is usually based on age and body weight. An adolescent might need as much as 0.4 unit/kg/day; young adult (less than 25 years), 0.35 unit per/kg/day; and older adults, 0.25 unit/kg/day. For example, a 70-kg, 30-year-old person may require a basal rate of 0.7 unit per

hour throughout the 24 hours with the exception of 3 am to 8 am, when 0.8 unit per hour might be appropriate (given the "dawn phenomenon" reduced tissue sensitivity to insulin between 5 am and 8 am).

The meal bolus varies based on the time of day and the person age. Adolescents and young adults usually require 1 unit for about 10 g of carbohydrate. Older adults usually require about 1 unit for 15 g of carbohydrate.

The correction factor—how much insulin is needed to lower glucose Levels by 50 mg/dL—can be calculated from the insulin-to-carbohydrate ratios. For example, if 1 unit is required for 15 g of carbohydrate, then 1 unit will lower glucose levels by 50 mg/dL. If 1.5 units of insulin are required for 15 g of carbohydrate (that is, 1 unit for 10 g Carbohydrate), then 1.5 units of insulin will lower glucose levels by 50 mg/dL (that Is, 1 unit will lower glucose level by 33 mg/dL). For a 70-kg 30-year-old person, bolus ratios of 1 unit for 12-15 g of carbohydrate plus 1

unit for SO mg/ dl of blood glucose over a target value of 120 mg/dL would be reasonable starting point. Further adjustments to basal and bolus dosages would depend on the results of blood glucose monitoring.

One of the more difficult therapeutic problems in managing patients with type 1 diabetes is determining the proper adjustment of insulin dose when the pre-breakfast blood glucose level is high. Occasionally, the pre-breakfast hyperglycemia is due to the Somogyi effect, in which nocturnal hypoglycemia leads to a surge of counter regulatory hormones to produce high blood glucose levels by 7 am. However, a more common cause for pre-breakfast hyperglycemia is the waning of circulating insulin levels by the morning.

The diagnosis of the cause of pre-breakfast hyperglycemia can be facilitated by self-monitoring of blood glucose at 3 a™ in addition to the usual bedtime and 7 am measurements or by analyzing data from the continuous glucose

monitor. This is required for only a few nights, and when a particular pattern emerges from monitoring blood glucose levels overnight, appropriate therapeutic measures can be taken. The Somogyi effect can be treated by lowering the basal insulin dose at bedtime or by eating a snack at bedtime.

When a waning insulin level is the cause, then either increasing the evening basal insulin dose or shifting it from dinnertime to bedtime (or both) can be effective. If this fails, insulin pump therapy may be required. The currently available dosed loop systems enable patients to achieve close to normal glucose levels in the morning with a low risk of nocturnal hypoglycemia.

CASE 13

TYPE II DIABETES

The possibility that the individual patient has a specific etiologic cause for the r diabetes should always be considered, especially when the patient does not have a family history of type 2 diabetes or does not have any evidence of central obesity or insulin resistance. Such patients should be evaluated for other types of diabetes such as LADA or MODY

Patients with LADA should be prescribed insulin when the disease is diagnosed and treated like patients with type 1 diabetes.

It is also important to note that many patients with type 2 diabetes mellitus have a progressive loss of beta cell function and will require additional therapeutic interventions with time.

WEIGHT REDUCTION:

One of the primary modes of therapy in the obese patient with type 2 diabetes is weight reduction. Normalization of glycemia can be achieved by weight loss and improvement in tissue sensitivity to insulin.

A combination of caloric restriction, increased exercise, and behavior modification is required if a weight reduction program is to be successful, Understanding the risks associated with the diagnosis of diabetes may motivate the patient to lose weight.

For selected patients, medical or surgical options for weight loss should be considered. Orlistat, phentermine/ topiramate, lorcaserin, naltrexone/extended-release bupropion, and high dose liraglutide (3 mg daily) are weight loss medications approved for use in combination with diet and exercise.

Non-obese patients with type 2 diabetes frequently have increased visceral adiposity—the so-called metabolically obese normal weight patient. There is less emphasis on weight loss, but exercise remains an important aspect of treatment.

GLUCOSE-LOWERING AGENTS:

The current recommendation is to start metformin therapy at diagnosis and not wait to see whether the patient can achieve target glycemic control with weight management and exercise.

When diabetes is not well controlled with Initial therapy (usually metformin), then a second agent should be added. Presence of cardiovascular or kidney disease, or both, will determine the choice of the second agent.

CASE 14

HYPOGLYCEMIA

HISTORY:

This is when your blood sugar levels become too low. The symptoms include shakiness, pale skin, headache, sweating, hunger, fatigue, dizziness and light headedness.

Hypoglycemia is an abnormally low concentration of blood glucose. severe hypoglycemia can be fatal or lead to irreversible neurological damage. Blood glucose levels should be measured whenever possible jn patients presenting symptoms of hypoglycemia. If hypoglycaemia js suspected but blood glucose measurement is not available, glucose (or another available sugar) should be given empirically. Always consider hypoglycemia in patients presenting impaired consciousness (lethargy, coma) or seizures.

Clinical Features:

Rapid onset of nonspecific signs, mild to severe depending on the degree of the hypoglycemia: sensation of hunger and fatigue, tremors, tachycardia, pallor, sweats, anxiety, blurred

vision, difficulty speaking, confusion, convulsions, lethargy, coma.

DIAGNOSIS:

Capillary blood glucose concentration (reagent strip test): non-diabetic patients: Hypoglycemia :< 3.3 mmol/litre (< 60 mg/dl) Severe hypoglycemia :< 2.2 mmol/litre (< 40 mg/dl)

Diabetic patients on home treatment: < 3.9 mmol/litre (< 70 mg/dl) tf blood glucose measurement is not available, diagnosis is confirmed when symptoms resolve after the administration of sugar or glucose.

MANAGEMENT OF HYPOGLYCEMIA:

Conscious patients:

Children: a teaspoon of powdered sugar in a few ml of water or 50 mi of fruit juice, maternal or therapeutic milk or 10 mi/kg of 10% glucose by oral route or nasogastric tube.

Adults: 15 to 20 g of sugar (3 or 4 cubes) or sugar water, fruit juice, Soda, etc. Symptoms improve approximately 15 minutes after taking sugar by Oral route, Patients with impaired consciousness or prolonged convulsions:
Children: 5 mi/kg of 10% glucose by IV route (2 to 3 minutes) or infusion
Adults: 1 mi/kg of 50% glucose by slow IV (3 to S minutes). Neurological symptoms improve a few minutes after the injection.

Check blood glucose after 15 minutes. If it is still low, readminister glucose by IV route or sugar by oral route according to the patient's clinical condition.
If there is no clinical Improvement, differential diagnoses should be considered: e.g., serious infection (severe malaria, meningitis, etc.}, epilepsy.

In all cases, after stabilization, give a meal or snack rich in complex carbohydrates and monitor the patients for a few hours.

If patient does not return to full alertness after an episode of severe hypoglycemia, monitor blood glucose levels regularly.

For the treatment of hypoglycemia in a person with impaired consciousness and no established IV access, immediate administration of glucagon is suggested, rather than waiting to establish IV access. Administration of glucagon (subcutaneous, intramuscular or nasal) will usually lead to recovery of consciousness within 15 minutes, although it may be followed by marked nausea or even vomiting. Dose of glucagon is I mg IM / \V/ SC and 3mg (nasal); May repeat in 15 minutes as needed.

Last but not the least, underlying cause of hypoglycemia should be treated.

Causes other than diabetes: Treat severe malnutrition, neonatal sepsis, severe malaria, acute alcohol intoxication, etc.
End prolonged fast.

Replace drugs inducing hypoglycemia (e.g. quinine IV, pentamidine, ciprofloxacin, enalapril, beta-blockers, high-dose aspirin, tramadol), or anticipate hypoglycemia (e.g. administer quinine {V in a glucose infusion).

In diabetes patients:
Avoid missing meals, Increase intake of carbohydrates, if necessary,
Adjust dosage of insulin according to blood glucose levels and physical activity. Adjust dosage of oral anti-diabetics, taking into account possible drug interactions.

CASE 15

IMPOTENCE / ERECTILE DYSFUNCTION

Erectile dysfunction can have organic and psychogenic etiologies, and the two frequently overlap.

Organic erectile dysfunction may be an early sign of cardiovascular disease and requires evaluation.

Peyronie disease is a common, benign fibrotic disorder of the penis that causes pain, penile deformity, and sexual dysfunction.

MANAGEMENT

- Life style modification and reduction of cardiovascular risk factors are important components of any treatment plan. This should potentially include Smoking cessation, reduction of alcohol intake, diet, exercise, and treatment of diabetes, dyslipidemia, and hypertension.

- Hormone replacement therapy.

- Counselling and anti-depressants i.e., Tab Everlong (Dapoxetine) 60mg, 1 tab PO 3

hours before activity) 50-100mg, 1 tab PO x OD for 3 months.

- Tab Freedep (Sertraline)
- Tab Viagra (sildenafil) 25-100mg, 1 tab PO 30min before activity
- Vacuum erection devices and penile prosthetic surgery.

CASE 16

CLUSTER HEADACHE

CLINICAL FEATURES:

Cluster headache affects predominantly middle-aged men.

Episodes of severe unilateral periorbital pain occur daily for several weeks and are often accompanied by one or more of the following: ipsilateral nasal congestion, rhinorrhea, lacrimation, redness of the eye, and Horner syndrome (ptosis, pupillary meiosis, and facial anhidrosis or hypo hidrosis).

During attacks, patients are often restless and agitated. Episodes typically occur at night, awaken the patient, and last between 15 minutes and 3 hours.

Spontaneous remission then occurs, and the patient remains well for weeks or months before another bout of closely spaced attacks.

MANAGEMENT OF ACUTE ATTACK

- Inhalation of 100% oxygen (12-15 L/min for 15 minutes)
- Inj Imigran (sumatriptan) 6mg S/C x stat "OR" intranasal (20 mg/spray) stat "OR"
- Lignocaine (Viscous lidocaine) 1 mg of 4-6% solution intranasally.
- Prophylactic therapy:
- Tab Deltacortel (prednisolone) 5mg, 4 tablets PO x TDS for 5 days followed by gradual withdrawal over 7-10 days.
- Tab Calan / Isoptin (verapamil) 240mg, 1 tablet PO x OD (increase by 80 mg every 2 weeks to 960 mg daily, with routine ECG to monitor the PR interval) "OR"
- Tab-Hitop (topiramate) 100mg, 1 tablet PO x OD.

If there is no response to above medications go for Electrical stimulation of the vagus nerve at headache onset Successfully aborts pain in 30-50% of attacks, and twice daily prophylactic

stimulation reduces attack number in chronic Cluster headache.

CASE 17

GENERALISED ANXIETY DISORDERS

FEATURES:

Psychiatric disorder characterized by sense of generalize worry and apprehension most of the days for a duration of at least six months or more in the absence of any organic cause and | substance abuse.

Signs and symptoms of generalized anxiety disorder include apprehension, excessive worries, hypervigilance, sleep disturbance, attention and concentration problems, memory problems, irritability, restlessness, agitations, palpitation, tremors, increased thirst, increased urine frequency, constipation, abdominal pain and muscle spasm etc.

MANAGEMENT

Education about the nature of anxiety. Psychotherapy + Training in strategies for controlling anxiety and reducing stress. Cognitive behavioral therapy Benzodiazepines for short term relief and tolerance of SSRIs

Tab Lexotanil (bromazepam) 1.5-3mg 1 tab PO x BD “OR”

Tab Alp / Relaxin (alprazolam) 0.5 mg 1 tab PO x OD at night for 2-4 weeks then taper it gradually.

SSRis and SNRis according to its safety and efficacy in specific groups of patient

Tab Citanew / Morcet (Escitalopram) 10mg PO x OD “OR”

Tab Seroxate CR (paroxetine) 20mg, % tab PO x OD for S days than 1 tab PO x OD for 3-6 months “OR”

Tab Relaxine / Venla (Venlafaxine) 75mg, half tablet once daily for a week then 1 tab PO x OD with meals “OR”

Tab Reline / Freedep (sertraline) S0-100mg, 1 tab PO x OD for 3-6 months.

CASE 18

SOCIAL ANXIETY DISORDER

FEATURES:

Signs and symptoms of anxiety are mostly somatic type in the social condition like palpitations, sweating, chest pain, shortness of breath, dizziness, loss of control etc. for duration of at least six months.

MANAGEMENT

Almost same as that of generalized anxiety disorders

Usually, beta blocker is added for somatic symptoms

Tab Inderal (propranolol) 40mg, one tablet PO x BD.

CASE 19

PANIC DISORDER

FEATURES:

Panic attacks are recurrent, unpredictable episodes of surges of anxiety accompanied by marked physiologic manifestations. Agoraphobia, fear of being in places where escape is difficult, such as open spaces or public places where one cannot easily hide, may be present and may lead the individual to confine his or her life to home.

Panic disorder is diagnosed when panic attacks are accompanied by a chronic fear of the recurrence of an attack or a maladaptive change in behavior to try to avoid potential triggers of the panic attack.

MANAGEMENT

Cognitive behavioral therapy
Peer support groups are particularly helpful.

Pharmacological treatment:
Tab Alp / Relaxin (alprazolam) 0.5 mg 1 tab PO x OD at night “OR”

Tab Rivotril (clonazepam) 0.5mg, 1 tab PO TDS for 2-4 weeks then taper it gradually.
Tab Flux / Prozac (fluoxetine) 10mg, 1 tab PO x OD (the dose can be increased to 20mg after a week if tolerated) “OR”
Tab Seroxate CR (paroxetine) 20mg, % tab PO x OD for 5 days than 1 tab PO x OD “OR”
TabRelaxine / Venla (Venlafaxine) 75mg, half tablet once daily for a week then 1 tab PO x OD with meals for 3-6 months.

CASE 20

PHOBIC DISORDER

FEATURES:

Simple phobias are fears of a specific object or situation (eg, spiders, height) that are out of proportion to the danger posed, and they tend to be chronic.

Social phobias are global or specific.

In the former, all social situations are poorly tolerated, while the latter group includes performance anxiety (eg, fear of public speaking).

MANAGEMENT

Always refer to psychiatrist for proper management and treatment if available Rule out other causes of anxiety Non pharmacological treatment options (Psychotherapy and cognitive behavioral therapy) are the mainstay of treatment. Pharmacological treatment (if needed) is same as that of generalized anxiety disorders.

CASE 21

INSOMNIA AND SLEEP DISORDER

MANAGAMENT

Treat the underlying cause if any. TabXanax / Alp (Alprazolam) 0.25-0.5mg, 1 tab PO x OD at night "OR" TabAtivan (Lorazepam) img, 1 tab PO x OD at night "OR" TabZolp (zolpidem) 10mg 1 tab PO x

OD at night "OR" TabRivotril (Clonazepam) 5mg, 1 tab PO x OD at night for 7-14 days. Benzodiazepines cause addiction so never ever prescribe for more than 3 weeks.

CASE 22

DEPRESSIVE DISORDER

FEATURES:

Depressive disorder is mood disorder characterized by at least five of the following symptoms for a duration more than 14 days in the absence of any organic or substance abuse.

Low mood / diurnal mood variation.

Sleep disturbance.

Low energy

Loss of interest and lack of concentration.

Anhedonia (inability to feel pleasure in normally pleasurable activities).

Guilt.

Low memory.

Loss of appetite.

Decreased libido.

Lack of self-confidence.

Pessimistic thoughts (tending to see the worst aspects of things). Self-harm and suicidal thoughts.

General principles:

Always rule out organic causes

Milder forms of depression usually do not require medication therapy and can be managed by psychotherapy and the passage of time.
In severe cases—particularly when vegetative signs are significant and symptoms have persisted for more than a few weeks antidepressant medication therapy is often effective. Medication therapy is also suggested by a family history of major depression in first degree relatives or a past history of prior episodes.
SSRIs and CBT is the first line treatment

Always start from minimal effective dose, initially start from half dose for 5-7 days than titrate gradually.
If there is agitation and sleep disturbance add Benzodiazepine for 7-14 days (Benzodiazepines cause addiction so never ever prescribe for more than 3 weeks).
In pregnant and lactating mothers, prefer Sertraline (due to safety profile)
Always add non pharmacological treatment options in management plan

Asses patient for mania and hypomania symptoms in past.

Note: Always refer the patient to Psychiatrist for proper management if there is tendency to self-harm or suicidal thoughts.

MANAGEMENT OF DEPRESSIVE DISORDERS

Start from Effective psychotherapy.
If sleep impaired add Tab Alp (alprazolam) or Ativan (lorazepam) 0.25-0.5 mg 1 tab PO x OD at night for 7 to 14 days.
First line Antidepressants: SSRIs
Tab Citanew/ Estar (escitalopram) 10mg PO x OD "OR"
Tab Reline / Freedep (sertraline) 50-100mg, 1tabPOxOD "OR" Mm
Tab Seroxate CR (paroxetine) 20mg, % tab PO x OD for 5 days than 1 tab PO x OD "OR"
Tab Prozac/ Depricap (fluoxetene) 20mg, 1 tab PO x OD.

In case of associated headache add tricyclic antidepressants +
Tab Amyline / Tryptanol (amitriptyline) 25mg 1 tab PO x OD “OR”
Tab Sensival (nortryptaline) 25mg OR Prothiaden (dothiepin) 2575 mg, 1 tab PO x OD at night.

In Pregnancy patients, prescribe
Tab Reline / Freedep (sertraline) 50-100mg, 1 tab PO x OD “OR”
Tab Prozac/ Depricap (fluoxetine) 20mg, 1 tab PO x OD.
In lactating mothers, safe antidepressant is
Tab-Reline / Freedep (sertraline) S50-100mg, 1 tab PO x OD.
In children (age 8-18 years), go for
Tab Prozac/ Depricap (fluoxetine) 10-20mg, 1 tab PO x OD.
In case of HTN, DM, Ischemic heart disease or elderly patient prefer
Tab Reline / Freedep (sertraline) 50-100mg, 1 tab PO x OD.

Note:

Duration of treatment is usually 3-6 months.

If no response to one SSRI like escitalopram for 4-6 weeks, then try another SSRI like fluoxetine or paroxetine and withdraw previous SSRI. If still no response to second SSRI, then try combination therapy, in which SSRI like escitalopram given in morning and TCA like Amyline (amitriptyline) "OR" Sensival (nortryptaline) OR Protheidine (dothepine) is given at night.

If still no response, then refer to Psychiatrist for ECT with counseling like CBT.

CASE 23

UTI

Urinary tract infection (UTI) is an infection in any part of the urinary tract: Pyelonephritis (Kidneys), cystitis (urinary bladder) urethritis (urethra), Vaginitis (vagina) and prostatitis (prostate gland) are different types of UTIs.

CLINICAL FEATURES:

Patient may complain of fever, flank pain, supra pubic pain, burning micturition (dysuria) blood in urine (hematuria) urinary frequency, urgency etc.

INVESTIGATIONS:

- Urine R/E
- US abdomen (KUB)
- Urine for C/S (in case of recurrent UTI)

MANAGEMENT

Supportive Care: (Almost same for all type of UTIs).

Encourage oral fluids.

Ask to take care of personal hygiene. + Syp Citralka (Na Acid citrate) 2 TSF dissolved in a glass of water "OR"

Crane berry / Crane max sachet PO x TDS (to alkalinize the urine and relieve the burning micturition).
Tab Voltral SR (Diclofenac) 100mg, 1 tablet PO x TDS “OR”
Tab Urilef / Pyridine (phenazopyridine) 200mg, 1 tab PO x TDS. 4 Empiric (antibiotic) therapy for different UTIs are given below

REFERE TO UROLOGIST IF SYMPTOMS OF CYSTITIS CONSISTENT

CASE 24

KIDNEY STONE

Clinical Features: Sudden onset of acute colic, localized to the flank, causing the patient to move constantly. Nausea and vomiting referred pain to the scrotum or labium on the same side as the stone moves down the ureter.

Investigations:

- CBC
- Urine analysis
- X-ray KUB (except in pregnancy)
- Ultrasound KUB
- CT KUB.

MANAGEMENT

Ensure adequate hydration.

Manage acute urinary retention due to bladder or urethral stones by urethral catheterization or supra-pubic cystostomy respectively.

Kidney stones less than 8mm are usually managed conservatively as follow.

Cap Rowatinex 1 cap PO x BD

Tab/injVoren (Diclofenac) 50/75mg PO/IM x SOS

Inj/TabNospa (Drotaverine) IV x stat then SOS
Tab Novidat (Ciprofloxacin) 500mg 1 tab PO x BD for 5 days
Syp Citralka (citric acid) 2 TSF dissolved in a glass of water PO * TOS
Tab Tamsol (Tamsulosin) 0.4mg 1 tab PO x OD at night.

Other alternatives particularly for stones of larges sizes include uroscopy, extracorporeal shock wave lithotripsy, percutaneous nephrostomy, and surgical removal of stones.

REFERRAL: Better to refer to urologist if the stone size is greater than 6 mm.

CASE 25

BENIGN PROSTATIC HYPERTROPHY

FEATURES:

Obstructive or irritative voiding symptoms.
May have enlarged prostate on rectal examination.
Absence of urinary tract infection, neurologic disorder, stricture disease, prostatic or bladder malignancy.

Investigations:

- Urine analysis
- PSA
- US Abdomen and pelvis
- (Especially for prostate size).

MANAGEMENT

Tab Tamsol (Tamsulosin) 0.4 mg 1 tab PO x OD at night continuous

"OR" Cap Minipress/ Prazin (Prazosin) 1-5mg 1 tab PO x OD at night continuous

If there is no response and PSA is high add

Tab Genesis (Finasteride) 1 tab PO x OD + If there is still no relieve, refer the patient to Urologist.

CASE 26

ANIMAL & HUMAN BITE WOUNDS

FEATURES:

Cat and human bites have higher rates of infection than dog bites.

Hand bites are particularly concerning for the possibility of closed-space infection.

Antibiotic prophylaxis indicated for non-infected bites of the hand and hospitalization required for infected hand bites.

All infected wounds need to be cultured to direct therapy.

TREATMENT:

A. Local Care:

Vigorous cleansing and irrigation of the wound as well as debridement of necrotic material are the most important factors in decreasing the incidence of infections.

Radiographs should be obtained to look for fractures and the presence of foreign bodies.

Careful examination to assess the extent of the injury (tendon laceration, joint space penetration) is critical to appropriate care.

B. Suturing:

If wounds require closure for cosmetic or mechanical reasons, suturing can be done. However, one should never suture an infected wound, and wounds of the hand should generally not be sutured since a closed-space infection of the hand can result in loss of function.

C prophylactic Antibiotics: Prophylaxis is indicated in high-risk bites and in high-risk patients. Cat bites in any location and hand bites by any animal, including humans, should receive prophylaxis.

Tab Amoxiclave / Augmentin (Amoxicillin-clavulanate) 625mg, PO x TDS for 6 days.

For patients with serious allergy to penicillin, go for Cap Dalacin-C (clindamycin) 300mg, 1 tablet PO x TDS, PLUS one of the following for 5-7 days:

Cap Vibramycin (doxycycline) 100mg, 1 capsule PO x BD.

Tab Ciproxin / Novidat (ciprofloxacin) 500mg, 1 tablet PO x BD.

Tab Leflox (levofloxacin) 500-750mg, 1 tablet PO x OD.
Tab Moxiget (Moxifloxacin) 400mg, 1 tablet PO x OD.

Agents such as dicloxacillin, cephalexin, macrolides, and clindamycin should not be used alone because they lack activity against Pasteurella species.
Because the risk of HIV transmission is so low following a bite, routine post exposure prophylaxis Is not recommended. Each case should be evaluated individually and consideration for prophylaxis should be given to those who present within 72 hours of the incident, the source is known to be HIV infected, and the exposure is high risk.

D. Antibiotics for Documented Infection:
Inj Unasyn (ampicillin-sulbactam), 1.5-3.0gm, IV x TDS

CASE 27

MALARIA

FEATURES:

Exposure to anopheline mosquitoes in a malaria-endemic area.

Intermittent attacks of chills, fever, and sweating.

Headache, myalgia, vomiting, splenomegaly; anemia, thrombocytopenia.

Intra-erythrocytic parasites identified in thick or thin blood smears or positive rapid diagnostic tests.

Falciparum malaria complications: cerebral malaria, severe anemia, hypotension, pulmonary edema, acute kidney injury, hypoglycemia, acidosis, and hemolysis.

INVESTIGATIONS:

- CBC with peripheral smear
- LDH levels
- Blood thick and thin smear for malarial parasites
- G6PD level. If capillary blood (ear lobule) is taken from the patient during fever spike, there are more chances of malarial parasite to be seen.

MANAGEMENT

Chloroquine-sensitive Plasmodium falciparum and Plasmodium malariae infections:
Tab Nivaquin P/ Resochin (Chloroquine) 250mg, 4 tablets (1000mg) PO x stat, then 2 tablets (500 mg) after 6 hours, 24 hours and 48 hours.

Plasmodium vivax and Plasmodium ovale infections:
Chloroquine (as above), then (if G6EPD normal) go for Tab Primaquine, 15mg, 2 tablets (30mg) PO x OD for 14 days.

Uncomplicated infections with chloroquine resistant P falciparum:
Tab Gen-M / Artem plus (Arthemeter/Lumefantrine) 80/420, 1 tab PO x BD for 3 days "OR"
Tab Zafquin (quinine sulfate) 650mg, 1 tab PO x TDS for 3-7 days PLUS one of the following (when quinine given for < 7 days)
Cap Vibramycin / Contimycin (doxycycline) 100 mg, 1 cap PO x BD for 7 days "OR"

Cap Dalacin C / Klinda (clindamycin) 300 mg, 2 capsules PO x BD for 7 days.

Severe or complicated infection with P. falciparum:

Inj Gen-M (artesunate) 2.4mg/Kg IV x BD for day 1, then once daily until the patient become able to tolerate oral antimalarial therapy "OR"

Inj Zafquin (Quinine dihydrochloride) 20 mg/kg diluted in 500 mL dextrose saline IV over 4 hours, then 10 mg/kg IV x TDS till patient can tolerate oral antimalarial therapy to complete the 7 days course PLUS

Cap Vibramycin / Contimycin (doxycycline) 100 mg, 1 cap PO x BD for 7 days.

Supportive care for other complaints

Transfuse Blood if Hb is less than 7 gm/dL.

Inj Valium or Phenobarb for convulsions.

Malaria Prophylaxis for Travelers: 1-2 weeks prior to travel and 2 weeks after leaving.

CASE 28

TYPHOID/ENTERIC FEVER

FEATURES:

Gradual onset of malaise, headache, nausea, vomiting, abdominal pain. On examination there may be coated tongue (75% cases), rose spots, relative bradycardia, splenomegaly, and abdominal distention and tenderness.
Slow (stepladder) rise of fever to maximum and then slow return to normal.

Leukopenia; blood, stool, and urine cultures are positive for Salmonella.

DIAGNOSIS:

- The culture of S. Typhi can be done from many body fluids such as blood, bone marrow, urine
- Rose spot biopsy extract
- Duodenal aspirates and stool
- Positive serological tests (such as widal and Typhidot) are not recommended for the diagnosis of enteric fever.
- Other tests include CBC (to see thrombocytopenia and relative leucopenia)

- LFTs (to differentiate it from viral hepatitis), serum electrolytes (to look for hyponatremia and hypokalemia)
- Chest X-ray (to rule out pneumonia), dengue serology (to exclude dengue fever)
- Blood thick and thin smear for malaria.

MANAGEMENT

Keep intake / output record and check B.P + temperature every 6 hourly

If the patient is febrile do cold / Tepid sponging

Tab/SypPanadol/ Calpol (Paracetamol) 1 Tab/ TSF PO x TDS.

Inf Ringolact-D 500ml, IV x TDS (Plabolyte-M, 25 ml/kg in children)

Choice of antibiotic (in case of uncomplicated enteric fever)

Cap Caricef/ Cefim (cefixime) 400mg PO 1 x BD "OR"

Tab Novidat / Hiflox (Ciprofloxicin) 750mg PO x BD "OR"

Tab Leflox / Levo (levofloxacin) SOOmg, 1 tab PO x 8D for 10 14 days

If there are no signs of improvement after 5 days of treatment or there Is any sign of complication, switch oral antibiotics to IV Ceftriaxone.
Inj Rocepin/ Oxidil (Ceftriaxone) 1gm IV x BD (ATD) for 7 days

Once the results of blood culture are available, modify antibiotic regimen based on final antibiotic sensitivity results.

In case of multi-drug resistant typhoid give one of the following
Antibiotic to which the isolate is susceptible in vitro "OR"
Inj Rocepin/ Oxidil (Ceftriaxone) 2gm IV x BD (ATD) for 10-14 days "OR" M
Inj Azithma / Zezot 500mg (diluted in250 mL N/saline) IV x OD for 7-14 days

Treatment of carriers:
Tab Novidat / Hiflox (Ciprofloxicin) 750mg PO x BD for 4 weeks |
Cholecystectomy may also achieve this goal.