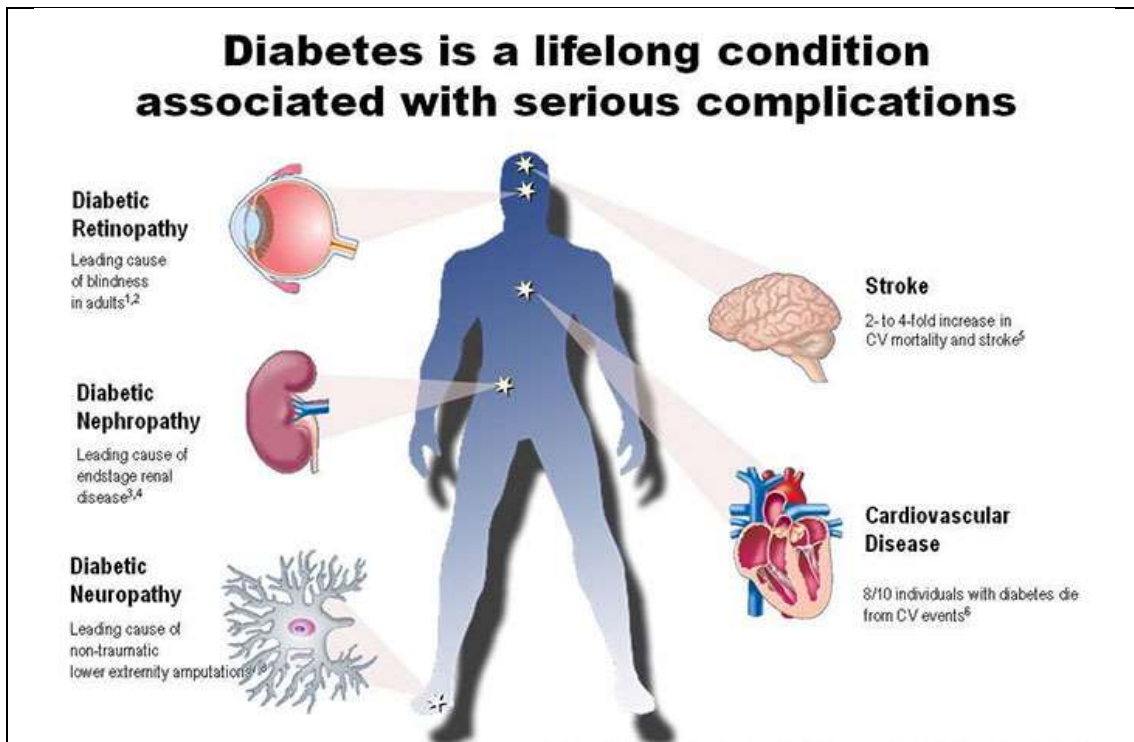


Complications of diabetes



Complications

1. Coma:

(a) Diabetic (hyperglycemic) due to acidosis and dehydration

- ***Air-hunger,***
- ***Cherry-red lips,***
- ***Smell of acetone in breath,***
- ***Softness of eye-ball,***
- ***Flaccidity of muscles,***
- ***Loss of deep reflexes,***
- ***Tachycardia,***
- ***Subnormal temperature,***
- ***Low blood pressure,***
- ***Leukocytosis,***
- ***Low alkali-reserve in blood,***
- ***Hyperglycemia,***
- ***Polyuria,***
- ***Sugar and ketone bodies in urine,***
- ***Thirst,***
- ***Weakness, and***
- ***Loss of weight.***



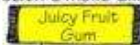
DIABETIC KETO-ACIDOSIS



Onset Over
4-10 Hours

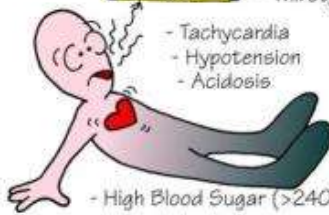


- Breath Smells Like...



- Kussmaul Respirations
- Thirsty, Dehydration

- Tachycardia
- Hypotension
- Acidosis



- High Blood Sugar (>240 mg/dl)
- Hyperkalemia
- Polyuria



Needs...

Hydration
Insulin
Electrolyte
Replacement

© 2007 Nursing Education Consultants, Inc.

Polyuria, polydipsia

- Enuresis

Dehydration

- Tachycardia
- Orthostasis

Abdominal pain

- Nausea
- Vomiting



Fruity breath

- Acetone

Kussmaul breathing

Mental status changes:

- Combative
- Drunk
- Coma

Complications of DKA

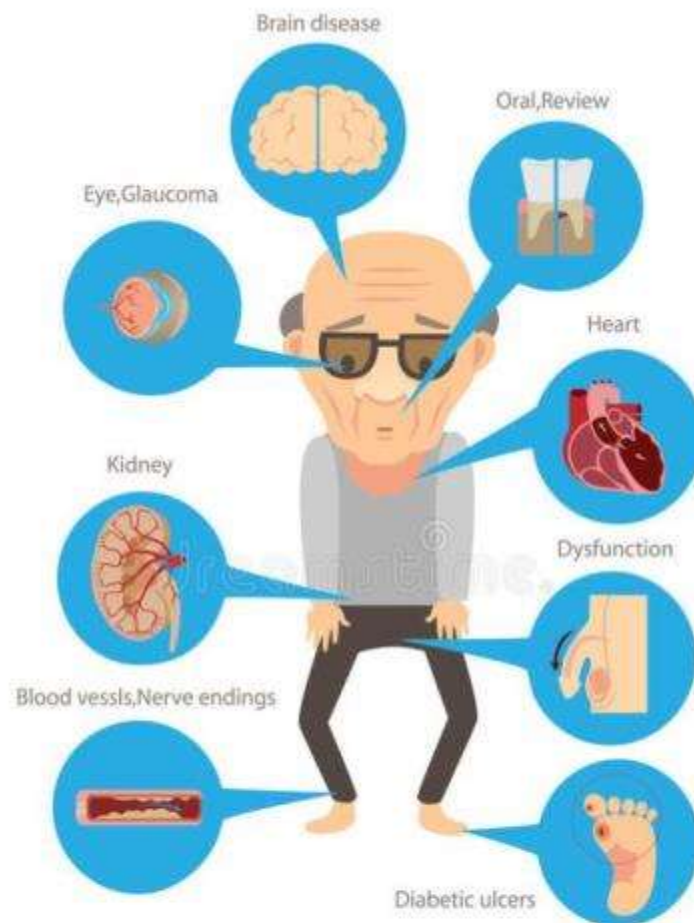
- Infection
 - Precipitates DKA
 - Leukocytosis can be secondary to acidosis
- Shock
 - If not improving with fluids r/o MI
- Vascular thrombosis
 - Severe dehydration
 - Cerebral vessels
 - Occurs hours to days after DKA
- Pulmonary Edema
 - Result of aggressive fluid resuscitation
- Cerebral Edema
 - First 24 hours due to aggressive correction of hypoglycemia or administration of hypotonic solution
 - c/p: Mental status changes
 - Tx: Mannitol
 - May require intubation with hyperventilation

How does a patient with DKA present?



(b) Hypoglycemic due to overdosage with insulin

- ***Sweating,***
- ***Flushing (usually),***
- ***Abdominal discomfort,***
- ***Headache,***
- ***Nausea,***
- ***Vomiting,***
- ***Intense hunger (for food),***
- ***Tremor and vague nervousness,***
- ***Visual disturbances (diplopia, dimness, loss of acuity), coldness of limbs, epigastric pain and convulsions.***



**DIABETES
OF
COMPLICATIONS**

2. Pulmonary diseases

Such as tuberculosis and bronchitis,

3. Cardiovascular complications:

- *Heart failure;*
- *Myocarditis;*
- *Infarction;*
- *Thrombosis on top of atheroma of blood vessels and its complications.*

4. Sepsis and gangrene:

- *Boils;*
- *Carbuncles;*
- *Cellulitis;*
- *Pruritis;*
- *Balanitis;*
- *Gangrene at legs (dry gangrene at legs (dry then moist)).*

5. Peripheral neuritis.

6. Cataract; diabetic retinitis; retro bulbar neuritis; optic atrophy; thrombosis of central vein: blindness; central scotoma; amblyopia.

7. Renal failure; chronic nephritis.

8. Apoplexy.

9. Fevers; infections; sexual dysfunction (impotence).

1. Clinically, the symptoms and signs are usually due to:

- *Failure to utilize sugar:*
- *Its accumulation in blood → hyperglycaemia;*
- *Its appearance in urine → glycosuria;*
- *Action as diuretic → polyuria (and in children → nocturia enuresis): withdrawal of fluid from tissues → polydipsia and thirst; irritation of tissues → pruritis; non-utilization → hunger, weakness and emaciation;*
- *Digestive disturbances → large, dry, red and raw-beef tongue, gastritis, indigestion and diarrhoea → dehydration and dryness of skin.*

2. Incomplete combustion of fat:

- *The soluble intermediaries (ketone bodies, beta-hydroxybutyric acid and aceto-acetic acid) accumulate in blood → acidosis → air-hunger;*
- *Are excreted in urine with the fixed base (as sodium, potassium and calcium) → ketone bodies in urine; gall-stone formation; arteriosclerosis; lipemia.*

3. Secondary lesions:

- *Of the associated or superimposed diseased conditions.*
- *When diabetes is due to lack of insulin (as occurs in young thin individuals) the islets appear reduced in number and ketosis is rather common → "insulin-sensitive cases".*
- *When diabetes is due to diminished responsiveness to insulin → "insulin-insensitive cases." (As occurs in older obese patients); the islets show no significant abnormalities and the ketosis is not eminent (does not develop so quickly).*

