

## Diabetic Ketoacidosis

**Chief Complain:** polyuria, nocturia, abdominal pain, thirst, drowsiness, nausea, acute diarrhea and vomiting (in an acute or rapid setting). DKA may be the first manifestation of a patient with type 1 DM.

### Questions

#### Relevant Q:

**" In addition to all the Q's you should ask a diabetic patient that was mentioned earlier"**

- 1- Have they stopped or reduced their dose of insulin?
- 2- Loss of appetite?
- 3- Intercurrent infections?
- 4- Abdominal pain? "especially in children"
- 5- Change in urine odder?

#### Precipitating factors

- Infection
- Stress
- Not enough insulin (poor control of insulin level.)
- Emotional upset.

#### Physical findings

Tachycardia

Hypotension (volume depletion due to osmotic diuresis).

Kussmaul respiration " air hunger"  
-hyperventilation to compensate for the acidosis-  
acetone breath (fruity odor)

altered mental status and consciousness (e.g comatose)

poor skin turgor

Abdominal pain

Confusion

## Investigations

- Venous blood: for urea glucose and electrolytes . (Hyponatremia, hypomagnesemia high anion gap metabolic acidosis)
- Urinalysis ( will show glycosuria and ketonuria).
- ECG (MI is a precipitant).
- Infection screen: CXR , cultures ( Infection is a major precipitating factor )
- Serum for ketonemia

## Complication of DKA


- Cerebral oedema  
( May be caused by very rapid reduction of blood glucose, use of hypotonic fluids and/or bicarbonate)  
"Treat with mannitol, oxygen"
- shock and coma
- Thromboembolism
- Disseminated intravascular coagulation (rare)
- Acute circulatory failure

## Differential diagnosis:

- hypoglycemia
- Sepsis
- Intoxication(e.g methanol ,salicylates..)
- Alcoholic ketoacidosis
- hyperosmolar hyperglycemic non-ketotic syndrome (HHNS)

## Management of DKA

- the administration of short-acting (soluble) insulin
- fluid replacement
- potassium replacement
- the administration of antibiotics if infection is present.

 <b>21.17 Clinical features of diabetic ketoacidosis</b>	
<b>Symptoms</b>	
<ul style="list-style-type: none"> <li>• Polyuria, thirst</li> <li>• Weight loss</li> <li>• Weakness</li> <li>• Nausea, vomiting</li> </ul>	<ul style="list-style-type: none"> <li>• Leg cramps</li> <li>• Blurred vision</li> <li>• Abdominal pain</li> </ul>
<b>Signs</b>	
<ul style="list-style-type: none"> <li>• Dehydration</li> <li>• Hypotension (postural or supine)</li> <li>• Cold extremities/peripheral cyanosis</li> <li>• Tachycardia</li> </ul>	<ul style="list-style-type: none"> <li>• Air hunger (Kussmaul breathing)</li> <li>• Smell of acetone</li> <li>• Hypothermia</li> <li>• Confusion, drowsiness, coma (10%)</li> </ul>