Diabetic Ketoacidosis (DKA)

Diabetic ketoacidosis (DKA) is a life-threatening complication of type 1 diabetes. It must be quickly recognized and treated. Treatment requires hospitalization.

CAUSES

When there is no insulin in the body, glucose (*sugar*) cannot be used and the body breaks down fat for energy. When fat breaks down, acids (*ketones*) build up in the blood. Very high levels of glucose and high levels of acids lead to severe loss of body fluids (*dehydration*) and other dangerous chemical changes. This stresses your vital organs and can cause coma or death.

HOW CAN DKA BE PREVENTED?

- Always take your insulin. **Do not** skip your insulin injections.
- If you are ill, treat yourself quickly. Your body often needs more insulin to fight the illness.
- Check your blood glucose regularly.
- Check urine ketones if your blood glucose is greater than 240 milligrams per deciliter (mg/dl).
- **Do not** used expired or outdated insulin.
- If your blood glucose is high, drink plenty of fluids. This helps flush out ketones.

SYMPTOMS

- Tiredness (*fatigue*).
- Weight loss.
- Excessive thirst.
- Ketones in the urine.
- Lightheadedness.
- Fruity or sweet smell on your breath.
- Excessive urination.
- Visual changes.
- Confusion or irritability.
- Feeling sick to your stomach (*nauseous*) or vomiting.
- Rapid breathing.
- Stomachache or belly (*abdominal*) pain.

DIAGNOSIS

Your caregiver will diagnose DKA based on your history, physical exam, and blood tests. Your caregiver will check if there is another illness present which caused you to go into DKA. Most of this will be done quickly in an emergency room.

TREATMENT

- Fluid replacement to correct dehydration.
- Insulin.
- Correction of electrolytes, such as potassium and sodium.
- Medicines (*antibiotics*) that kill germs for infections.

HOME CARE INSTRUCTIONS

- If you are ill, follow the advice of your caregiver.
- To prevent loss of body fluids (*dehydration*), drink enough water and fluids to keep your urine clear or pale yellow.
  - If you cannot eat, alternate between drinking fluids with sugar (soda, juices, flavored gelatin) and salty fluids (broth, bouillon).
  - If you can eat, follow your usual diet and drink sugar-free liquids (water, diet drinks).
- **Always** take your usual dose of insulin. If you cannot eat, or your glucose is getting too low, call your caregiver for further instructions.
- Continue to monitor your blood or urine ketones every 3 to 4 hours around the clock. Set your alarm clock or have someone wake you up. If you are too sick, have someone test it for you.
- Rest and avoid exercise.

SEEK MEDICAL CARE IF:

- You have ketones in your urine or your blood glucose is higher than a level your caregiver suggests. You may need extra insulin. Call your caregiver if you need advice on adjusting your insulin.
- You cannot drink at least a tablespoon of fluid every 15 to 20 minutes.
- You have been throwing up for more than 2 hours.
- You have symptoms of DKA:
  - Fruity smelling breath.
  - Breathing faster or slower.
  - Becoming very sleepy.

SEEK IMMEDIATE MEDICAL CARE IF:

- You have signs of dehydration:
  - Decreased urination.
  - Increased thirst.
  - Dry skin and mouth.
  - Lightheadedness.
- Your blood glucose is very high (as advised by your caregiver) twice in a row.
- You or your child has an oral temperature above 102° F (38.9° C), not controlled by medicine.
- You pass out.
- You have chest pain and/or trouble breathing.
- You have a sudden, severe headache.
- You have sudden weakness in one arm and/or one leg.
- You have sudden difficulty speaking and/or swallowing.
- You develop vomiting and/or diarrhea that is getting worse after 3 to 4 hours.
- You have abdominal pain.

MAKE SURE YOU:

- Understand these instructions.
- Will watch your condition.
- Will get help right away if you are not doing well or get worse.

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