

Test your knowledge

Correctly diagnosing a case of diabetes mellitus as type 1 or type 2 is necessary for appropriate management. Test your knowledge of the range of presentations of this common condition.

The multiple choice questions in this quiz may have more than one answer.

- The classic triad of polydipsia, thirst and polyuria usually indicates diabetes mellitus. What else can cause these symptoms?
 - diuretic abuse
 - nephrogenic diabetes insipidus
 - central diabetes insipidus
 - psychogenic diabetes insipidus
 - hypercalcaemia
- Which of the following are characteristic of type 1 diabetes mellitus?
 - onset in childhood or adolescence
 - presentation as diabetic ketoacidosis
 - presentation with an opportunistic infection such as vaginal thrush
 - associated weight loss at presentation
 - islet cell antibodies
- Which of the following are characteristic of type 2 diabetes mellitus?
 - weight loss prior to presentation
 - obesity
 - increasing incidence after 50 years of age
 - ketones in the urine
 - associated acanthosis nigricans
- A 50-year-old woman presents with polyuria, polydipsia, thirst and a blood sugar level of 25 mmol/L. Which of the following are true?
 - she is too old to have type 1 diabetes mellitus
 - a blood sugar level of 25 mmol/L always indicates type 2 diabetes mellitus
 - a blood sugar level of 25 mmol/L always indicates type 1 diabetes mellitus
 - about 10% of middle-aged adults with diabetes mellitus have type 1
 - it is not possible to be sure at this presentation whether she has type 1 or type 2 diabetes mellitus
- A 16-year-old girl with a body mass index of 30 kg/m² presents with polyuria, polydipsia, thirst and a blood sugar level of 25 mmol/L. There are no ketones in her urine. Which of the following are true?
 - type 2 diabetes mellitus cannot occur in adolescence
 - she is obese; therefore, she must have type 2 diabetes mellitus
 - the lack of ketones in her urine increases the likelihood that she has type 2 diabetes mellitus
 - about 30% of adolescents with diabetes mellitus have type 2
 - it is not possible to decide whether she has type 1 or type 2 diabetes mellitus until a trial of oral hypoglycaemic agents.
- Which of the following statements are true of the genetics of diabetes mellitus?
 - diabetes mellitus always 'breeds true' – that is, type 1 leads to type 1 in family members; type 2 leads to type 2 in family members
 - type 2 diabetes mellitus in a parent increases the risk of type 2 diabetes mellitus in a child
 - type 2 diabetes mellitus in a parent increases the risk of type 1 diabetes mellitus in a child
 - only type 2 diabetes mellitus increases the risk of a family member developing diabetes
- only type 1 diabetes mellitus confers an increased risk of diabetes in family members
- What type of diabetes mellitus (type 1 or type 2) is generally responsible for the following?
 - vaginal thrush
 - hyperosmolar coma
 - diabetic ketoacidosis
 - weight loss, fatigue, ketones in the urine, and an elevated blood sugar level
 - boils
- What is the mechanism of hyperglycaemia in type 2 diabetes mellitus?
 - lack of insulin production in pancreatic islet cells
 - peripheral insulin resistance
 - tissue destruction by islet cell antibodies
 - increased absorption of glucose from the gut
 - decreased glucose excretion through the kidneys.



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Figure. Hyperpigmented rugose axillary fold.

Reference

- Pinhas-Hamiel O, Zeitler P. Clinical problem-solving. The importance of a name. *N Engl J Med* 1999; 340: 1418-1421.

Answers appear on page 142

Clinical quiz answers

(to questions on page 115)

1. a, b, c, d, e

Polydipsia, thirst and polyuria may be caused by diuretic abuse, diabetes insipidus (nephrogenic, central or psychogenic) or hypercalcaemia. Simple investigations such as a urinalysis and blood sugar will distinguish the common cause from the more exotic.

2. a, b, d, e

Type 1 diabetes mellitus is more likely to occur in young people than in older people. It can present as diabetic ketoacidosis, and there is frequently a history of weight loss and excessive fatigue as well as polydipsia, polyuria and thirst leading up to presentation. Islet cells are present in the majority of cases.

3. b, c, e

Type 2 diabetes mellitus is more common in people over 50 years of age, but it is by no means unknown in younger people. In America, about 30% of adolescents with newly diagnosed diabetes have type 2. Ketones are rarely present in the urine. Type 2 diabetes mellitus is associated with acanthosis nigricans.

4. d, e

Approximately 10% of middle-aged adults who present with diabetes mellitus are found to have type 1. It is not always possible to distinguish type 1 from type 2 at the initial presentation.

5. c, d

About 30% of adolescents with diabetes have type 2 diabetes mellitus. The lack of ketones in the urine at presentation of this girl makes this diagnosis more likely. Oral hypoglycaemics are used to treat insulin resistance and are therefore only useful in type 2.

6. b, c

Type 2 diabetes mellitus in a parent increases the risk of both type 1 and type 2 diabetes mellitus in a child.

7. a, b, e=type 2

c, d=type 1

Type 1 diabetes mellitus is generally responsible for diabetic ketoacidosis or a combination of weight loss, fatigue, ketones in the urine and an elevated blood sugar level. Type 2 diabetes mellitus is generally responsible for vaginal thrush, hyperosmolar coma or boils.

8. b

Type 2 diabetes mellitus is caused by peripheral insulin resistance.