Type 1 diabetes mellitus (biochemistry)

Type 1 diabetes mellitus is characterized by absolute or almost complete lack of endogenous insulin and life dependence on exogenous insulin. Patients are prone to ketoacidosis .

The disease results from the selective destruction of pancreatic **islet β-cells** by an autoimmune process in genetically predisposed individuals. The triggering mechanism of the autoimmune process is probably a viral infection or contact with another exogenous or endogenous agent.

The clinical picture of type 1 diabetes mellitus depends on the aggressiveness of the autoimmune process . *In childhood and adolescence* , when most diseases develop, the last stage of β-cell destruction tends to be very rapid, so diabetes is manifested by classic *acute symptoms* (including ketoacidosis). At *a later age* , the disease tends to have a much *slower* onset and only eventually results in complete insulin dependence. Insulin secretion may be reduced for several years, but sufficient to prevent ketoacidosis. The clinical course of the disease therefore resembles type 2 diabetes mellitus and it is stated that about one in ten patients originally classified as type 2 diabetes has slow-onset type 1 diabetes - **latent autoimmune diabetes of *adults* (LADA) .**

Type 1 DM is a less common form of diabetes that occurs in about 7% of diabetics. The classic symptoms of type 1 DM are thirst, polyuria and weight loss.

Comparison of the characteristics of type 1 and type 2 DM at the beginning of the disease

Type 1 diabetes mellitus		**Type 2 diabetes mellitus**
	LADA	
insulin secretion is missing	gradual cessation of insulin secretion	insulin resistance, impaired insulin secretion
a typical beginning in childhood and adolescence	a typical beginning in adulthood	a typical beginning after 40 years
ketoacidosis		
more often lower BMI		more often higher BMI
positive autoantibodies		autoantibodies are missing
C-peptide is missing	C-peptide reduced	C-peptide normal or elevated
immunoreactive insulin is missing	immunoreactive insulin reduced	immunoreactive insulin normal or elevated

Links

Related articles

- Diabetes mellitus • Diabetes mellitus (pediatrics) • Gestational diabetes mellitus • Newborns of diabetic mothers
- Diabetes mellitus 1. type (endocrinology) • Diabetes mellitus 1. type (biochemistry)
- Diabetes mellitus 2. type (endocrinology) • Diabetes mellitus 2. type (biochemistry) • Diabetes mellitus 2. type (pediatrics)
- Complication of diabetes mellitus
- Diabetes and tumors • Transplantation in diabetology • Pancreatic transplantation
- Metabolick syndrome and inzulín resistance
- Diabetick ketoacidosis/case report
- Diabetic education • Self monitoring of glycemia

References

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