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Titel des Beitrags:
Cardiac autonomic dysinnervation and myocardial blood flow in long-term Type 1 diabetic patients.

Abstract:
AIMS: The aim of the study was to assess scintigraphically the relationship between myocardial blood flow response and sympathetic dysinnervation in long-term Type 1 diabetic patients. Effects of the iron chelator deferoxamine on myocardial blood flow were studied and they were investigated according to the presence of cardiac sympathetic dysfunction.

METHODS: Myocardial blood flow (MBF) was assessed with N-13 ammonia positron emission tomography in 13 long-term Type 1 diabetic patients and 13 control subjects at rest and in response to sympathetic stimulation (cold pressor test (CPT)). In diabetic patients, the study was repeated after preinfusion with deferoxamine. Furthermore, 123I metaiodobenzylguanidine (MIBG) scintigraphy was applied to assess regional cardiac sympathetic dysinnervation (uptake score 1 = normal, homogeneous uptake em leader 6 = no uptake).

RESULTS: In diabetic patients, MBF increased in response to CPT from 78 +/- 18 ml/100 g/min to 84 +/- 26 ml/100 g (8%, P 3 did not exhibit a significant increase in MBF in response to CPT. After administration of deferoxamine, the increase in MBF in response to CPT was 23% and the magnitude of increase was related to the MIBG uptake score (r = 0.40, P< 0.0001).

CONCLUSIONS: Myocardial blood flow response to sympathetic stimulation is significantly impaired in long-term Type 1 diabetes. After
preinfusion with deferoxamine the impairment is partially reversed and a relationship between myocardial blood flow and the extent of cardiac sympathetic dysfunction is observed.