

# Contractile functions and sympathetic innervation of the albino rat diabetic heart

## Thesis

### Summary:

The aim of this thesis was to describe:

1. The impact of untreated long-termed diabetes induced by streptozotocin on cardiac contractile functions and their sympathetic regulation in rat.
2. The effect of insulin on cardiac contraction in control and diabetic myocardium.

In the diabetic group, the contraction force was significantly decreased compared to control group. The norepinephrine-releasing mechanisms were altered in chronically diabetic rats and may contribute to the decreased norepinephrine concentration in the diabetic heart. Insulin exerted a significant negative inotropic effect in rat myocardium, both control and diabetic. This effect was probably related to processes of SR Ca<sup>2+</sup> release triggering, whereas SR Ca<sup>2+</sup> loading is not involved.

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Plzeň, 2006