

Alternative Method of Incompetence Correction of Inferior Esophageal Sphincter

Ungureanu Sergiu¹, Șipitco Natalia¹, Vidiborschii Vladimir², Fosa Doina¹

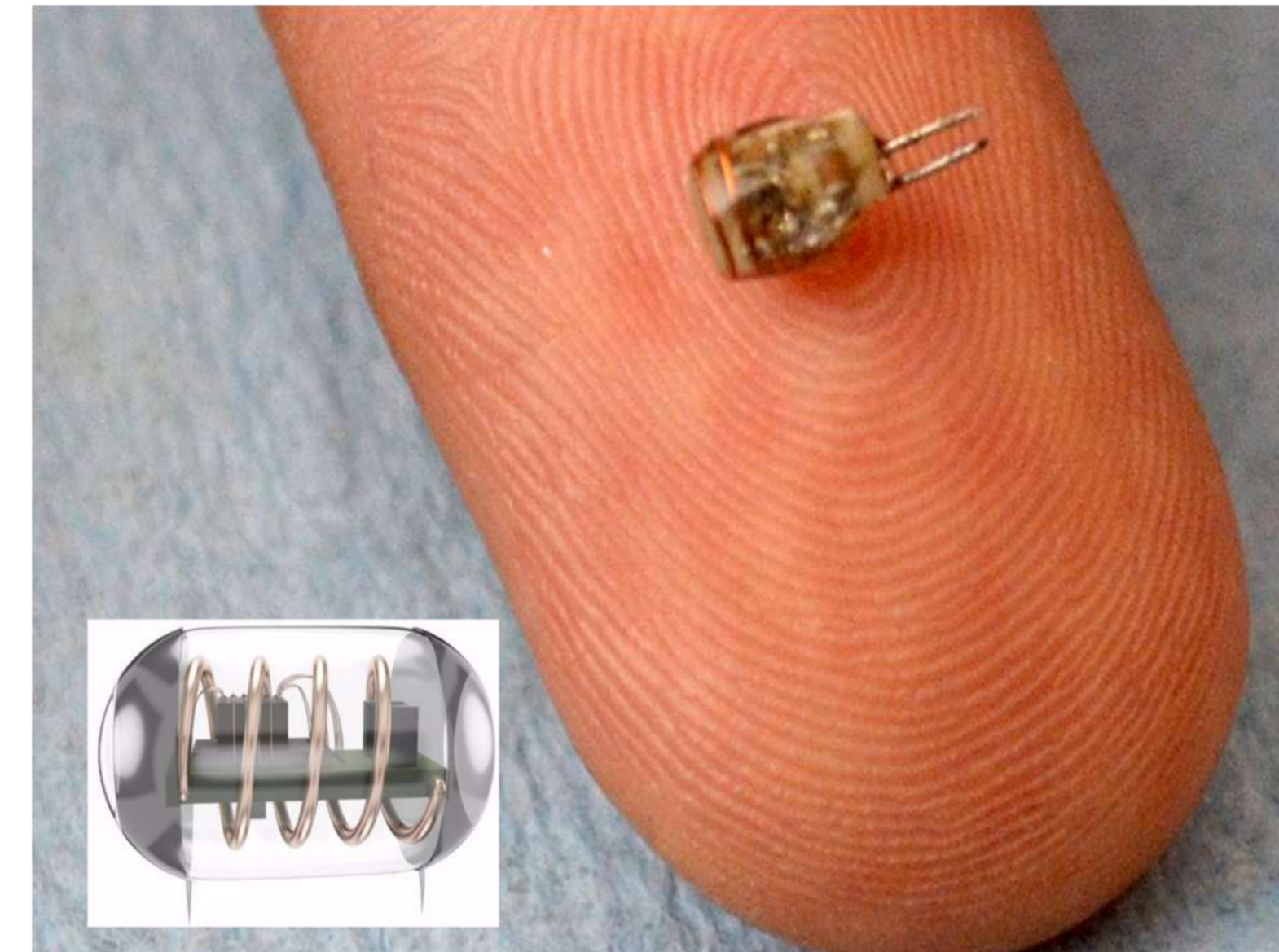
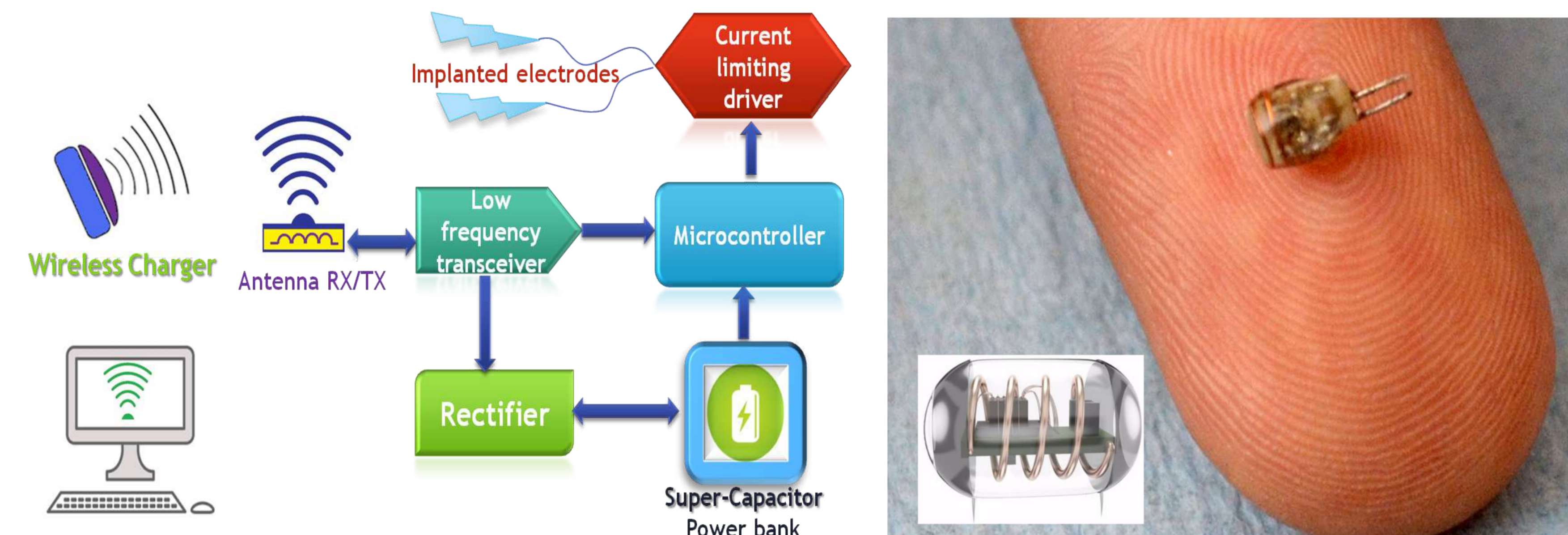
¹ State Medical Pharmaceutical University „Nicolae Testemițanu”

² State Technical University of Republic Moldova

Introduction: A solution to resolve gastroesophageal reflux is to increase the tonus of the inferior esophageal sphincter through electrostimulation. The type of electrostimulation and the optimal parameters remains a dispute in the medical field.

Purpose: To obtain clinical data from laboratory animals regarding the effects of different types of electrostimulation of IES, elaboration and testing the prototype of implantable and rechargeable microstimulator through cordless energy transfer.

Material and methods: In Department of surgery Nr.4 over the course of 4 years (2015-2018), there has been performed a randomized, prospective clinical experimental study of inferior esophageal sphincter electrostimulation.



Results: In the first stage the study aimed to determine the optimal parameters of IES electrostimulation through the clinical and paraclinical analysis of 15 patients. In the second stage there has been created an experimental device that consisted of an implantable microstimulator in which cordless energy transfer was used, following the testing on laboratory animals at Center of Experimental Surgery „Pius Brânzeu”, Timișoara, Romania. The value of resting pressure of IES and the integrate resting pressure (IRP) were significantly different in the before and after stimulation.

Conclusions: In the first stage the study aimed to determine the optimal parameters of IES electrostimulation through the clinical and paraclinical analysis of 15 patients. In the second stage there has been created an experimental device that consisted of an implantable microstimulator in which cordless energy transfer was used, following the testing on laboratory animals at Center of Experimental Surgery „Pius Brânzeu”, Timișoara, Romania. The value of resting pressure of IES and the integrate resting pressure (IRP) were significantly different in the before and after stimulation.

Keywords: inferior esophageal sphincter (IES), electric stimulation, gastroesophageal reflux disease

