

[Neurophysiological study of thin myelinated and unmyelinated fibers].

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INTRODUCTION: Standard neurophysiological techniques evaluate thick myelinated fibers. Yet, peripheral nerves are equally composed of thin myelinated and unmyelinated fibers. The latter are responsible for autonomic function as well as temperature and pain perception.

DEVELOPMENT: Microneurographic studies are restricted to investigation laboratories. Since the techniques are complex and invasive, their performance is still poor for clinical purposes and some of the components to be analyzed, such as cardiovagal, cannot be directly recorded. The clinical need to evaluate the functions regulated by the autonomic nervous system (ANS) had led to devising a series of tests which, in most cases, rely on reflex responses evoked by already known standardize stimuli. The battery chosen has to be non invasive, reproducible, specific, providing relevant data to the investigated function, with a readily available technology, which has to be managed being aware of the physiological and pathological factors that might bear an influence on the results. The recent development of heart rate blood pressure power spectral analysis, provides a new interesting insight for quantification of ANS abnormalities. The study of thermography and thermometry of body surface brings forward evidence on the activity of other thin and unmyelinated fibers components of the peripheral nerve spectrum. CONCLUSION: The adequate management of the above mentioned tests gives rise to a more extensive and appropriate knowledge of the whole peripheral nerve fiber spectrum.