Diabetic Peripheral Neuropathy Screening That Includes DPNCheck® Predicts Mortality In A Prospective Clinical Study

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WOBURN, Mass., June 07, 2023 (GLOBE NEWSWIRE) -- NeuroMetrix, Inc. (Nasdaq: NURO) noted presentation of new clinical data at the Diabetes UK meeting held April 23-26 in Liverpool, UK. The scientific poster was titled "Abnormal combined diabetic peripheral neuropathy (DPN)-check and SUDOSCAN results predict all-cause mortality in people with diabetes: The Sheffield prospective study."

The study prospectively followed 245 individuals with diabetes for 7-years following screening for peripheral neuropathy. The screening tests included a structured clinical exam (Toronto Clinical Neuropathy Score, TCNS), the Semmes-Weinstein Monofilament test (10 g-MFT) that is a subjective, clinical test for DPN, a device (Sudoscan®) that measures autonomic nerve function, and DPNCheck. DPNCheck and Sudoscan are complementary validated point-of-care tests for DPN. The initial cross-sectional screening results were previously published and showed that DPNCheck was the most accurate individual test for DPN.

As reported in the Diabetes UK poster, after adjusting for age, HbA1c and total cholesterol, only abnormal results from DPNCheck and Sudoscan were significantly associated with all-cause mortality (HR=1.18, p=0.04) after 7-years. The study authors concluded, "This is the first prospective study to show abnormal combined DPN-Check and Sudoscan results predict all-cause mortality, even after adjustment for other risk factors. However, the 10 g-MFT and TCNS that diagnose DPN late did not in this unselected population." The poster is available online.

Shai N. Gozani, M.D., Ph.D., CEO of NeuroMetrix commented, "This landmark study from the renowned University of Sheffield diabetes research group shows that only objective assessments of DPN are predictive of mortality. The implication is that early stage DPN puts the patient at risk for devastating health complications. However, early detection and intervention have the potential to alter the patient's disease trajectory. We look forward to learning from the University of Sheffield team what combination of DPNCheck results provide the highest predictive value so that this information can be communicated to the thousands of clinics worldwide that use DPNCheck."

Dr. Gozani continued, "Another important result is that simple monofilament testing, which has been a mainstay of DPN screening for decades, is not predictive of mortality; likely due to its subjective nature and inability to detect early nerve changes indicative of DPN. While the monofilament has been useful for detection of late stage manifestations of DPN, we are now in an era of precision and preventative medicine enabled by technologies such as rapid genetic screening and in-office PCR testing for pathogens. It no longer makes sense to detect peripheral neuropathy in diabetes patients using a simplistic subjective test when gold-standard technology in the form of DPNCheck is available and cost-effective at the point-of-care."

About Diabetic Peripheral Neuropathy

Diabetic peripheral neuropathy (DPN) is the most common long-term complication of diabetes, affecting half of people with diabetes, The clinical and economic burden of DPN stems from its central role in the development of foot ulcers that can lead to lower extremity amputation. DPN also causes debilitating chronic nerve pain and altered proprioception that increases the risk of falling, particularly in the elderly. Overall, DPN is associated with a substantial reduction in quality of life and decreased activities of daily living.

About DPNCheck

DPNCheck is an automated, fast, accurate, and quantitative sural nerve conduction test used to evaluate peripheral neuropathies. It is designed to be used by clinicians at the point-of-care to detect peripheral neuropathies at an early stage when intervention is likely to be most effective, to stage the severity of nerve deterioration and to monitor disease progression and treatment benefits. Please visit at dpncheck.com for more information.

About NeuroMetrix

NeuroMetrix is an innovation-driven company with a mission to improve individual and population health through novel medical devices and technology solutions for neurological disorders and pain syndromes. The Company has three commercial products. Quell® is a prescription wearable neuromodulator that is the only FDA-authorized medical device to help reduce the symptoms of fibromyalgia. DPNCheck® is a diagnostic device that provides rapid, point-of-care detection of peripheral neuropathies. ADVANCE® is a legacy diagnostic device that provides automated, in-office nerve conduction studies for the evaluation of focal neuropathies. For more information, visit www.neurometrix.com.

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