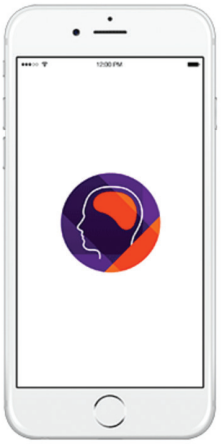
PracticalNeurology NEWS
Volume 15, No. 1 • January/February 2016

Ischemic Stroke Risk in Young Adults More Pronounced in African Americans

New findings suggest pronounced ethnic differences in ischemic stroke subtypes in young adults. In a study published in *BMC Neurology* (October 29, 2015), authors conducted a population-based study controlling for age and sex, finding that African Americans were more likely to have a lacunar stroke than European Americans. Moreover, they found this effect was mediated by hypertension, which increases the risk of lacunar stroke and large artery stroke when controlling for sex, ethnicity, and age. Additionally, the data revealed that patients below age 40 were more likely to have a cardioembolic stroke than those above age 40, while smokers were more likely to have a large artery stroke than non-smokers. The authors concluded that the mechanisms of stroke in young adults may be driven in part by ethnic-specific differences in early-onset traditional risk factors, thereby indicating differing emphasis on workup and prevention.

Study to Test Effectiveness of App to Track Concussions



Researchers at NYU Langone Medical Center are testing whether a new free mobile app for iPhone and Apple Watch can help those with concussions better track their symptoms during the critical six weeks following their diagnosis. The ResearchKit software framework was designed to make it easier for researchers to gather data more frequently and more accurately from participants using iPhone, as well as for individuals to take part in studies by using their mobile devices. It enables participants to easily complete tasks or submit surveys right from the app and delivers a simple way to present participants with an interactive informed consent process.

For the study, participants will complete three daily tasks: a five-question survey that captures symptoms, including balance issues, blurred vision, and drowsiness; a six-minute walk test; and tasks to measure concentration.

The NYU Langone Concussion Tracker app is now available in Apple's App Store. Researchers hope the app will provide a more in-depth, daily picture of concussion nationwide.

Blocking Inflammation Slows Alzheimer's Development

Blocking inflammation in the brain may slow the progression of Alzheimer's disease (AD), according to a new study published in *Brain* (January 6, 2016). To understand migroglial proliferation in AD and the potential efficacy of inhibiting the colony-stimulating factor 1 receptor (CSF1R), researchers used a transgenic model of Alzheimer's-like pathology to defined a CSF1R-dependent progressive increase in microglial proliferation in the proximity of amyloid plaques. They noted that prolonged inhibition of CSF1R in APP/PS1 mice by an orally available tyrosine kinase inhibitor (GW2580) resulted in the blockade of microglial proliferation and the shifting of the microglial inflammatory profile to an anti-inflammatory phenotype. "Pharmacological targeting of CSF1R in APP/PS1 mice resulted in an improved performance in memory and behavioral tasks and a prevention of synaptic degeneration, although these changes were not correlated with a change in the number of amyloid-β plaques," the authors observed. They concluded that CSF1R inhibition represents a promising approaching to tackling microglial activation and the progression of AD.

High Levels of Urate in Blood Associated with Lower Risk of Parkinson's Disease

Men who have high levels of urate in their blood may be less likely to develop Parkinson's disease, according to a study published in *Neurology* (January 13, 2016). Urate is formed when purines are broken down in the body. The study evaluated 90,214 participants in three large, ongoing studies. Blood tests measured the urate level of participants. Researchers compared 388 people who developed Parkinson's disease after the start of the studies to 1,267 people who did not have the disease. They then combined their results with the results from three previous studies on the topic for a meta-analysis. The men with the lowest level

of urate had levels of less than 4.9 milligrams per deciliter, whereas those with the highest levels had 6.3 to 9.0 mg/dL. Normal levels can range from 3.5 to 7.2 mg/dL. The men who had the highest levels of urate were nearly 40 percent less likely to develop Parkinson's disease than those with the lowest levels. The authors concluded that more studies are needed to understand the sex differences in the relationship between urate and Parkinson's disease.

Investigational Parkinson's Agent Impresses in Phase 3 Trials

Results from the Phase 3 EASE LID clinical trial suggest that the investigational compound ADS-5102 (amantadine HCl) is effective in the treatment of levodopa-induced dyskinesia (LID) associated with Parkinson's disease. ADS-5102 (amantadine HCl) is an extended-release version of amantadine that is intended for once daily administration. It is designed to improve upon the pharmacokinetic (PK) profile of immediate-release amantadine, with the aim of enhancing efficacy without compromising the known tolerability profile.

Data from the randomized, placebo-controlled study showed a statistically significant reduction in LID at 12 weeks for patients who received ADS-5102 versus placebo, representing a 23 percent reduction in LID for ADS-5102-treated patients compared to placebo, which was maintained at 24 weeks. According to manufacturer Adamas Pharmaceuticals, the comprehensive Phase 3 data will be presented at an upcoming scientific conference.

Hepatitis C Associated with Greater Risk of Parkinson's Disease

The hepatitis C virus may be associated with an increased risk of developing Parkinson's disease, according to new data published in *Neurology* (December 23, 2015). In the Taiwanese study, investigators placed participants with hepatitis into three groups—those infected with the hepatitis B virus (71 percent), those with hepatitis C (21 percent), and those who had both viruses (eight percent)—and followed them for an average of 12 years to see who developed Parkinson's disease. Of those with hepatitis, 270 developed Parkinson's disease, including 120 people with hepatitis C. Among those who did not have hepatitis, 1,060 developed Parkinson's disease. Once researchers controlled for factors such as age, sex, diabetes and cirrhosis, they found that people with hepatitis C were nearly 30 percent more likely to develop Parkinson's disease than the people who did not have hepatitis. People with hepatitis B and those with both viruses were not more or less likely to develop Parkinson's disease than those who did not have hepatitis.

Estriol Combined with Glatiramer Acetate May Be Effective for Women with Relapsing-Remitting MS

Estriol plus glatiramer acetate may reduce relapse rates in women with relapsing-remitting multiple sclerosis (MS), new findings indicate. Noting that preclinical studies have shown that estriol treatment is anti-inflammatory and neuroprotective, the investigators conducted a phase 2 trial in

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EMD Serono Takes Over Sole US Rights to Rebif

EMD Serono has taken over the sole US rights to Rebif (interferon beta-1a) for the treatment of relapsing forms of multiple sclerosis (MS) to decrease the frequency of relapses and delay the occurrence of some of the physical disability that is common in people with MS, effective January 1 of this year. According to EMD Serono Senior Vice President of Neurology and Immunology Drew Young, the company is committed to supporting patients with relapsing MS. "We have also evolved our award-winning MS LifeLines patient support service with the goal of providing a broad range of comprehensive assistance to people living with relapsing MS," said Mr. "Since reimbursement can often be complicated for patients to navigate, we are working to ensure that all eligible patients are aware of our comprehensive suite of patient support programs, including our reimbursement support."

Rebif is now the exclusive interferon beta-1a on CVS Caremark™ National Formulary and will also continue to be covered on most major national formulary plans.

The company also noted that data highlighting the clinical and MRI efficacy of Rebif will be presented at the Americas Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Forum taking place from February 18-20 in New Orleans, LA.

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International Stroke Conference
February 16-19: Los Angeles, CA
www.strokeconference.org

The Americas Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS)
February 18-20: New Orleans, LA
www.actrims.org

11th Annual Brain Injury Business Practice College
February 22-24: New Orleans, LA
www.biausa.org

Practical Clinical Management of Concussion
March 4: Independence, OH
www.clevelandclinicmeded.com

Immunotherapy for Neurologic Disorders
March 18: Philadelphia, PA
www.penncmeonline.com

The American Academy of Neurology Annual Meeting
April 15-21: Vancouver, BC
www.aan.com

which women with relapsing-remitting MS were randomly assigned with a random permuted block design to either daily oral estriol (8mg) or placebo, each in combination with injectable glatiramer acetate 20mg daily (*Lancet Neurol*. January 15, 2016). At 24 months, the annualized confirmed relapse rate was 0.25 relapses per year in the estriol group versus 0.37 relapses per year in the placebo group.

The proportion of patients with serious adverse events did not differ substantially between the estriol group and the placebo group, while irregular menses were more common in the estriol group than in the placebo group. Additionally, there were no differences in breast fibrocystic disease, uterine fibroids, or endometrial lining thickness as assessed by clinical examination, mammogram, uterine ultrasound, or endometrial lining biopsy. The authors concluded that these results warrant further investigation in a phase 3 trial.

ADT Therapy for Prostate Cancer Tied to Alzheimer's Disease

Androgen deprivation therapy (ADT) for the treatment of prostate cancer could increase risk of Alzheimer's disease, new data suggest (*Journal of Clinical Oncology*, December 14, 2015). Investigators analyzed electronic medical record data in a retrospective cohort of patients to test the effect of ADT on risk of Alzheimer's disease. In the 2,397 patients receiving ADT during a median follow-up period of 2.7 years, propensity score–matched analysis and traditional multivariable-adjusted Cox regression analysis both revealed a statistically significant association between ADT use and Alzheimer's disease risk. The authors also noted a relationship of increased risk and longer duration of therapy.

Medtronic and Samsung Partner to Create Android-based Tools to Enhance Neuromodulation Therapy

Medtronic and Samsung Electronics America are allying to accelerate the development of digital health solutions for patients that may benefit from neuromodulation therapy, including those with chronic pain or movement disorders. The companies said the partnership will leverage Samsung's consumer technology and mobility expertise to develop advanced Android-based tools aimed at improving how patients and physicians interact with and receive data from Medtronic's neuromodulation systems. By integrating the technology, Medtronic say it plans to deliver real-time health data to doctors.

Last year, the companies announced a similar collaboration focused on diabetes management, which Medtronic said includes developing mobile apps optimized for Samsung mobile devices and designed to enable viewing of insulin pump and continuous glucose monitoring sensor information. ■

THE FDA FILE

Xeomin Approved for Upper Limb Spasticity

The FDA has approved Xeomin (incobotulinumtoxinA, Merz North America) for the treatment of upper limb spasticity (ULS) in adult patients. In clinical studies, treatment with Xeomin resulted in statistically and clinically significant improvements in muscle tone, with a safety profile similar to that observed for other Xeomin indications. With the addition Xeomin to treatment armamentarium for ULS, David M. Simpson, MD, FAAN, Professor of Neurology at The Icahn School of Medicine at Mount Sinai notes that, "physicians now have greater flexibility in selecting a neurotoxin therapy that meets the needs of their individual patients." For more of Dr. Simpson's insights on the treatment of ULS with neurotoxins, see the November/December 2015 edition of *Practical Neurology*® (available at www.practicalneurology.com).

Botox Receives Approval for Lower Limb Spasticity

The FDA has approved Botox (onabotulinumtoxinA, Allergan) for the treatment of lower limb spasticity in adult patients to decrease the severity of increased muscle stiffness in ankle and toe muscles. The approval was based on a large, international development program that included a phase three, multi-center, double-blind, randomized, placebo-controlled clinical trial that evaluated the safety and efficacy of Botox compared to placebo in more than 400 patients with lower limb spasticity following stroke. The study compared a total Botox dose of 300 to 400 units divided among ankle and toe muscles to placebo. Statistically significant improvements were observed in the two co-primary endpoints of average change from baseline in the improvement of muscle tone measured by the Modified Ashworth Scale (MAS) ankle score and the clinical benefit for patients as assessed by the Clinical Global Impression of Change by Physician (CGI) at weeks four and six.

IDE Approval Granted to StimRelieve to Investigate Wireless Device for CranioFacial Nerve Pain

StimRelieve has received FDA Investigational Device Exemption (IDE) approval to launch a clinical trial of its percutaneously implantable device for the treatment of refractory craniofacial neuropathic pain. StimRelieve uses wirelessly-powered, miniature neurostimulators leveraging nanotechnology for the treatment of refractory craniofacial pain ailments, including, but not limited to TMJ disorders, chronic, intractable trigeminal and other neuralgias, persistent idiopathic facial pain (atypical facial pain) conditions, and a variety of other cranial or facial pain syndromes. The trial will assess the safety and effectiveness of craniofacial nerve stimulation using the StimRelieve Halo CFNS System for the treatment of refractory neuropathic craniofacial pain.

Breakthrough Status Granted to Niemann-Pick Type C1 Disease Agent

The FDA has granted Breakthrough Therapy designation status to a drug candidate for the treatment of Niemann-Pick Type C1 Disease (NPC), Breakthrough Therapy designation status. Both. The Investigational agent, VTS-270 (Vtesse), is currently in a pivotal Phase 2b/3 clinical trial. Vtesse expects to enroll a total of 51 patients at up to 20 sites to participate in this clinical trial. For more information on Vtesse's pivotal Phase 2b/3 clinical trial, visit www.theNPCstudy.com.

RF Ablation Device for Painful Spine Metastases Receives Clearance

The FDA has granted 510(k) clearance to Medtronic for its OsteoCool RF Ablation System for use in patients with painful spine metastases. The OsteoCool System uses targeted high-frequency energy to destroy cancer cells. According to manufacturer Medtronic, metastatic bone disease has been reported to occur in 60 to 80 percent of cancer patients, most frequently among patients with primary malignancies of the breast, prostate, liver, and lung. Roughly 70 percent of metastatic bone cancer patients develop at least one lesion in the spine.

New Approvals for Medtronic Systems Allow DBS Patients Greater Access to MRI

Systems within Medtronic's Activ portfolio of Deep Brain Stimulation (DBS) neurostimulators have received FDA approval for full-body Magnetic Resonance Imaging (MRI) under specific conditions of use. Medtronic's MR Conditional DBS systems are the only approved for full-body MRI scans. According to the company, this approval expands access to MRIs for patients receiving Medtronic DBS Therapy. Additionally, this approval applies to individuals receiving new Medtronic DBS systems and to an estimated 43,000 people in the US already receiving Medtronic DBS Therapy as long as updated MRI guidelines are followed. ■