PD ExpertBriefing:
When Parkinson's Interferes with Gastrointestinal Function

Led By: Peter A. LeWitt, M.D., Professor of Neurology, Wayne State University School of Medicine and Director, Parkinson’s Disease and Movement Disorder Program, Henry Ford Hospital

This session was held on:
Tuesday, June 24, 2014 at 1:00 PM ET.

If you have any questions, please contact: Valerie Holt at vholt@pdf.org or call (212) 923-4700
Introduction

Robin Anthony Elliott
President
Parkinson’s Disease Foundation
Objectives

• To understand how Parkinson’s disease affects the gastrointestinal system
• To be able to identify some common gastrointestinal issues that people with Parkinson’s disease may experience, such as difficulty with bowel movements
• To learn practical ways for managing these problems, including medications, diet and additional strategies
Gastrointestinal Impairment in Parkinson’s Disease

• Recognized as problems by James Parkinson M.D., in his 1817 treatise *An Essay on the Shaking Palsy*

• Among the recognized problems of gastrointestinal (GI) function in Parkinson’s disease are:
  • Disordered salivation (drooling)
  • Swallowing difficulty (dysphagia)
  • Gastric paresis (decreased or slowed emptying function)
  • Constipation (decreased bowel movement frequency)
  • Defecatory difficulty
Gastrointestinal Impairment in Parkinson’s Disease

• Each of these problems has one or more management strategies
• Sometimes a team approach is needed with a gastrointestinal (GI) specialist or a speech/swallow therapist
• Preventing constipation is different from treating constipation once it is present
• Improving gastrointestinal (GI) function can have a positive impact on the consistency of benefit from Parkinson’s disease medications
Autonomic and Sensory Symptoms and Signs in Incident, Untreated Parkinson’s Disease: Frequent but Mild

Bernd Müller, MD, Jan Petter Larsen, PhD, Tore Wentzel-Larsen, MSc, Geir Olve Skeie, PhD, and Ole-Bjørn Tysnes, PhD for The ParkWest Study Group

Movement Disorders 2011; 26: 65-72

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Patients</th>
<th>Controls</th>
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<tbody>
<tr>
<td>N</td>
<td>207</td>
<td>174</td>
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<tr>
<td>Olfactory dysfunction</td>
<td>122 (58.9)</td>
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<td>Urinary dysfunction</td>
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<td>Increased saliva/drooling</td>
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<td>Constipation</td>
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<td>Sensory complaints</td>
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<td>Increased sweating</td>
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**TABLE 2. Frequencies of autonomic and sensory symptoms in patients with PD vs. controls**

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The Gastrointestinal System
Commonly-used Treatments for Constipation

- Increased fluid (water) intake
- Increased fiber content of diet
- Foods that enhance intestinal transit
- Non-prescription treatments to prevent and treat
  - Milk of magnesia
  - Sorbitol and polyethylene glycol (MiraLax®)
  - Stool softeners (docusate)
  - High-fiber supplements
  - Magnesium citrate (Citroma®)
  - Bisacodyl (Dulcolax®)
Prescription Drugs That Can Be Used to Treat Constipation

- lubiprostone (AMITIZA™)
- tegaserod (Zelnorm®)
- linaclotide (LINZESS®)
Recent Findings That Parkinson’s Disease May Start in the GI Tract

- Research is pointing to early (and possibly initial) findings that the distinctive cellular changes of Parkinson’s disease begin not in the brain but, rather, in the colon.
- These findings might provide new insight in how the disease could be diagnosed early and how the brain disorder might evolve.
α-synuclein Staining of Lewy Bodies in Parkinson’s Disease Brain

Aggregates of α-synuclein
Found in Colon Tissue

(Böttner et al, 2012)

Staining for α-synuclein in tissue layers of the colon (a – e) and in a brain section from a patient with Lewy body dementia (f)
Colon Biopsies Taken Prior to Onset of Parkinsonian Features

(Shannon et al, 2012)

Healthy control 2-yrs pre-PD 2-yrs pre-PD 3-yrs pre-PD

Stained for α-synuclein
Other Gastrointestinal Matters in Parkinson’s Disease

• Constipation as a prodromal (early) feature
• Bacterial overgrowth in the small intestine – a factor that might interfere with drug absorption
• *Helicobacter pylori* infection and motor fluctuations
• Slowed gastric emptying (and improvement with levodopa treatment)
MOVE-PD Study for Constipation

- A clinical study of a new treatment for chronic constipation in PD is ongoing at several sites around the US
- This brief clinical trial is being conducted by the Parkinson Study Group at approximately 15 clinical sites in North America
- There is no cost for participation in this important research (see the Parkinson Study Group website for information www.parkinson-study-group.org)
MOVE-PD Study for Constipation

• The drug is relamorelin (RM-131), a drug sharing the properties of ghrelin, which is a naturally-occurring small molecule that stimulates receptors specific sites in the GI tract.

• Like ghrelin, relamorelin acts to enhance muscle contractions and propulsion of contents in the GI tract, and it has greater effects than ghrelin.
THANK YOU!

Peter A. LeWitt, M.D.
Wayne State University School of Medicine
Parkinson’s Disease and Movement Disorders
Program, Henry Ford Hospital
West Bloomfield, Michigan USA
Questions and Discussion
Please complete our SURVEY.

Your responses help us to improve the work that we do.

Thank you.
Resources from PDF

Fact Sheet
• Gastrointestinal and Urinary Dysfunction in Parkinson’s

PD Resource List
• 750 Resources

Parkinson’s HelpLine
• Available at (800) 457-6676 or info@pdf.org
• Monday through Friday
• 9:00 AM – 5:00 PM ET
Upcoming PD Expert Briefings

Occupational Therapy and Parkinson's: Tips for Healthy Living
Tuesday, September 9, 2014, 1:00 PM - 2:00 PM ET
Faculty: Linda Tickle-Degnen, Ph.D., OTR/L, FAOTA, Professor, Department of Occupational Therapy, Director, Health Quality of Life Lab, School of Arts & Sciences Tufts University; Sue Berger, Ph.D., OTR/L, BCG, FAOTA, Clinical Associate Professor, Occupational Therapy, Boston University College of Health and Rehabilitation Sciences: Sargent College

Parkinson's and Parenting: The Impact of PD on Children and Young Adults
Tuesday, November 18, 2014, 1:00 PM - 2:00 PM ET
Faculty: Elaine Book, M.S.W., R.S.W., Clinic Social Worker, Pacific Parkinson's Research Centre, University of British Columbia Hospital
Please complete our SURVEY.

Your responses help us to improve the work that we do.

Thank you.