HISTORICAL PERSPECTIVE

- Parkinson’s disease (PD) was first described in 1817, An Essay on the Shaky Palsy, by James Parkinson
- Initially termed paralysis agitans
- The first description of PD included bowel symptoms
- Constipation most common
- Treatments include:
  - Stimulant laxatives to help the colon move stool
  - Techniques to encourage the expulsion of faeces from the rectum

DEFINITIONS

- Impairment or necrosis of dopamine producing neurons in the substantia nigra of the brain
- Histologic hallmark is the presence of Lewy bodies
- The substantia nigra is instrumental in the production of smooth and purposeful movement and other non-motor activities

FACTS

- PD present in 1% of elderly Americans (60 and older)
- Incidence of PD increases with age
- PD demographics:
  - men > women
  - Caucasians > other races
- Health care costs exceed $6 billion annually
- Second most common neurodegenerative disease

PATHOPHYSIOLOGY: PARKINSON DISEASE AND CONSTIPATION

- Depletion of dopamine producing neurons in the colon
- Formation of Lewy bodies in the myenteric plexus
- Unique bundles of nerve fibers within the muscle layers of the entire GI Tract
- Distributed from the upper esophagus to the internal anal sphincter

PARKINSON DISEASE AND ANORECTAL FUNCTION

- Dyssynergic defecation due to:
  - Paradoxical contraction of the anal sphincter complex during defecation
  - Failure of puborectalis relaxation during defecation
- May also have lower resting pressures and maximum squeeze pressures

PARKINSON AND GASTROINTESTINAL (GI) DYSFUNCTION

- Constipation is the most common GI disorder in PD
- Occurs in 70–80% of patients and may precede the disease by decades
- Motility disorders:
  - Dysphagia (difficulty with swallowing)
  - Gastraparesis (delayed gastric emptying) reported in 43–88%
  - Delayed colonic transit (colonic inertia or slow transit constipation)
  - Rectal outlet obstruction (dyssynergic defecation)
  - Sialorrhea (Excessive salivation) also reported

SUMMARY

- GI dysfunction is exceedingly common in PD
- Significant impairment on quality of life
- Symptoms may precede the diagnosis of PD
- Symptoms are progressive
- May affect function of the esophagus, stomach, bowel & anorectum
- Precise pathophysiology of GI dysfunction unclear
- Autonomic dysfunction & Motor dysfunction
- Prevalence of PD anticipated to increase as the population ages

FUTURE TREATMENT

- Functional Magnetic Stimulation
- Stimulates spinal nerves & deep muscles
- May facilitate bowel emptying
- Complementary therapy
  - Acupuncture
  - Massage therapy
  - Herbal supplements
- Multidisciplinary approach to symptom management
  - To address vitamin and mineral deficiencies

INFORMATIONAL WEBSITES

- Michael J Fox Foundation for Parkinson’s Disease
  - www.michaeljfox.org
- Parkinson’s Disease Foundation
  - www.pdf.org
- American Parkinson Disease Association Inc
  - www.apdparkinson.org