



MANAGEMENT OF FRACTURES IN PARKINSON'S DISEASE

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ABSTRACT

Parkinson's disease (PD) is a progressive neurodegenerative disorder affecting about 1 million people. Evidence indicates that Parkinson's disease patients are at a higher risk for low bone mineral density, which can contribute to increased fractures compared to healthy subjects. In fact, several risk factors of osteoporosis in patients with PD have been identified, including advanced stages of PD, low body mass index, inadequate sunlight exposure and decreased vitamin D levels. Some or all of these factors in conjunction with decreased immobilization that may occur with PD, can put patients at increased risks for fractures. Here in we report a case of distal humerus fracture with history of parkinsonism disease on treatment, which were managed with perioperative precautions in anaesthesia and orthopaedic point of view by open reduction and internal fixation by plating.

KEY WORDS ;Distal humerus fracture, parkinsonism, anesthetic drugs



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INTRODUCTION

Parkinson's disease (PD) is the second most common neurodegenerative disorder after Alzheimer's disease affecting approximately one percent of the population above 50 years of age. (1)PD results from the loss of dopaminergic neurons in the substantia nigra region of the brain. The cause and mechanism of continued neuron cell death in the substantia nigra is still unknown. The various organ-system manifestations and treatments place of PD patients at increased risk of complications during the perioperative period. PD patients in the perioperative periods are at risk for developing Parkinsonism-hyperpyrexia syndrome (PHS),(2) which carries a substantial degree of morbidity and mortality if not treated in its early stages. By minimizing interruptions in the administration of PD medications, many of the perioperative complications related to PD can be prevented or diminished.

Case report

A 58 yr old female patient came to hospital with complaint of severe pain, swelling and restriction of movements at left elbow with an alleged history of fall at home accidentally with tenderness over left elbow. patient is known case of parkinsonism since 7 yrs on treatment with tab.syncapone 100mg twice a day , tab.lonzef, tab raselect, tab .cetapin xr 500mg.basic routine investigations and X-ray of left elbow with arm apview (Fig 1A) and lat view (Fig1B) has been taken and diagnosed as distal humerus fracture comminuted. Pre operative precautions were taken and dosage of tab.syncapone was decreased to half of its norms preoperatively and postoperatively. And open reduction and internal fixation with one dynamic compression plate and two tubular plates has been fixed under gas and tourniquet control and above elbow pop slab was applied. Fig 2 A and 2B shows post operative x ray of distal humerus.(3,4,5)

Follow up

Management is continued regarding diabetes and parkinsonism. Chorea and dyskinesia has been persisting symptom post- operatively for about 5 days which gradually became normal.

DISCUSSION

There are no clear treatment guidelines regarding the optimal perioperative management of PD patients. The following measures are based on available data and are extensions of routine peri operative management; however, there is no evidence to demonstrate their efficacy in decreasing complication rates among patients with PD. A thorough preoperative history and physical examination should include Parkinsonism signs and symptoms, precise medication regimen with doses and timing of intake, effects of medication withdrawal or missed doses, type of surgery planned, and comorbid conditions. Depending on symptoms mentioned in the history, consider further testing for dysphagia (preoperative swallow evaluation) and dyspnea (preoperative pulmonary function tests). The major goal of medication management in the perioperative period is to continue administration of dopamine replacement therapy as close to the outpatient regimen as possible. Psychiatric considerations: delirium precautions(6); Motor considerations: early PT/OT, early referral to inpatient rehabilitation; fall precautions; Pulmonary considerations: institute aggressive incentive spirometry, postural drainage, management of respiratory secretions, and breathing exercises; VTE prophylaxis; Gastrointestinal considerations: aspiration precautions and prompt speech therapy to evaluate for aspiration and to teach appropriate swallow techniques (chin tuck); institute aggressive bowel regimen; maximize fluids, electrolytes, and avoid narcotics to prevent precipitating or exacerbating ileus; Cardiovascular

considerations: monitor orthostatic vital signs; fall precautions to avoid syncopal falls; and Genitourinary considerations: early urinary catheter removal; vigilance in monitoring for urinary tract infection.

A postoperative consultation should be placed for speech therapy, physical therapy, and occupational therapy. She may be given low-molecular-weight heparin for VTE prophylaxis and asked to use incentive spirometry.

Consultation with a speech therapist would have ensured that the patient was educated regarding aspiration precautions.

Perioperative management of patients with Parkinson's disease requires knowledge of the multisystem disease characteristics that raise perioperative risk and the effects of the medications used to treat PD. To date, no clear treatment guidelines exist for the optimal perioperative management of PD patients. However, vigilance in detecting possible complications and instituting attentive perioperative care can aid a hospitalist consultant in improving overall care for these patients. Reference:

CONCLUSION



Figure 1

Shows pre-operative X-ray of distal humerus fracture ap (A) and lat (B) view



Figure 2.
Shows post operative X-ray of distal humerus fracture ap (A) and lat (B) view

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