Safety Alert

Reducing harm from omitted and delayed Parkinson's disease medications

Issue

Medicines management is crucial in the care of the patient with Parkinson's Disease (PD) when they are admitted to hospital, either electively or in an emergency. Missed or delayed doses can impair patients' swallow, increase their risk of aspiration, render them immobile and prone to falls and fractures, and at worst, progress to Neuroleptic Malignant Syndrome, which can lead to coma or death.

Evidence of Harm

The following are examples of moderate harm incidents following the incorrect prescribing or administration of PD medications:[1]

Example 1: PD medication not prescribed

'Patient unable to wake up from anaesthesia. Seen by anaesthetist. After one hour thirty minutes, ET tube removed patient very sleepy and muscle twitching. Very stiff and difficult to rouse. Patient has Parkinson's disease and is taking Sinemet. Patient has not been prescribed Sinemet since arrival to hospital.'

Example 2: PD medication not administered

'*Patient has very brittle Parkinson's disease. "Failed to wake" after operation. Ventilated on ICU. Noted 24 hours since last dose of all 3 anti-parkinson's drugs. Became mobile and successfully extubated after ICU - given Sinemet 200+20.'*

Delays in receiving PD medication can cause a very distressing "off" episode triggering rigidity and tremor in the patient.[2] Numerous survey studies investigating PD patients' experience while admitted to hospital, report complications associated with medication administration times. These include: confusion, worsening of PD symptoms and distress.[3,7]

How to Reduce the Risks

When **prescribing** PD medications in hospital:

a) **Do not stop** these medicines abruptly

b) State the **exact times** on the medication chart (taking history from patient and/or carer)

Obtain early specialist guidance* for PD patients with swallowing difficulties or those in the peri-operative period before adjusting the medication regimen.

*Specialist Guidance can be sought from a Speech and Language Therapist (SALT), Consultant Neurologist, a PD Clinical Nurse Specialist, or Hospital Pharmacist according to availability

When **administering** PD medicines:

a) Administer at the **exact time** specified on the medication chart

b) **Involve the patient/carer** in the administration process where feasible

Self-medication, for PD in-patients that are able to do so, is considered the gold standard of their care[1,4,5] Consider the implementation of a self-medication policy to allow eligible PD in-patients to self- medicate

Where feasible, make PD medications **stock in the emergency department (ED)** and ensure 24 hour availability via the pharmacy department and/or an out-of-hours service

Staff education may have some benefits, but as the numbers of patients with PD admitted to general wards is very small and the turnover of prescribing doctors and nursing staff high, this may have minimal impact.[6] Education should be focused in particular target areas (ED, surgical wards and among hospital pharmacists)

Additional recommendations:

- Controlled-release and modified-release preparations should **not** be crushed. They should be replaced with an equivalent dose of immediate release Sinemet® or dispersible Madopar®
- Dopamine agonist patch (rotigotine) formulations, and apomorphine may be options when medicines cannot be taken by mouth.[7] Seek specialist advice for complex treatment regimens.

PD patients should **not** miss the doses in the peri-operative period, even when fasting. These medicines can be administered with a sip of water in most cases.

References

1. NPSA, Rapid Response Report: Reducing harm from omitted and delayed medicines in hospital (2010). [online]. Available at https://www.sps.nhs.uk/wp-content/uploads/2018/02/NRLS-1183-Omitted-and-del-SI-2010.02.23-FINAL.pdf [accessed 19/11/18]
2. Kohli A, Swain A, Subbramaniam P, Thakur S, Khambra S, Bhadoria P. (2008). Parkinsonian crisis for emergency laparotomy: A case report, Internet Journal of Anesthesiology 21 (1) 4. Available at https://print.ispub.com/api/0/ispub-article/6359 [accessed 19/11/18]
3. Barber M., Stewart D., Grosset D., MacPhee G.,(2001).Patient and carer perception of the management of Parkinson's disease after surgery. Age and Aging, 30; 171-172
4. National Institute for Health and Care Excellence. Parkinson's Disease in Adults. NICE Guideline NG71 2017. Available at https://www.nice.org.uk/guidance/ng71/resources/parkinsons-disease-in-adults-pdf-1837629189061
5. UK Parkinson's Disease Society (2006). 'Get it on time' Campaign. [Internet] Available at https://www.parkinsons.org.uk/information-and-support/get-it-time-resources. Accessed September 2018
6. Derry C.P., Shah K.J., Caie L., Counsell C.E. (2010) Medication management in people with Parkinson's disease during surgical admissions. Postgrad Med J. 86;334-337. Available at https://pmj.bmj.com/content/86/1016/334.long
7. Alty J, Robson J, Duggan-Carter P, et al. What to do when people with Parkinson's disease cannot take their usual oral medications. Practical Neurology 2016;16:122-128

Prepared by: Elena Castilla, Aoife Carolan, Joanne Moran and Geraldine Creaton on behalf of the IMSN