A Cross-Sectional Examination of Extrapyramidal Side-Effects (EPSE) in a Specialist Palliative Medicine Inpatient Unit

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Background:

- EPSE are serious side effects caused by anti-psychotics and other medications
- A core principle of palliative care involves optimising quality of life
- If side-effects of medications are burdensome it is imperative that we address this issue
- There are a number of ways in which EPSE present or manifest, namely, dystonia, pseudo-parkinsonism, akathisia and tardive dyskinesia
- EPSE are not routinely screened for in hospice settings
- Barnes Akathesia Rating Scale (BARS) is a rating scale for drug-induced akathesia¹

- The Modified Simpson-Angus Scale (MSAS) is used in rating pseudo-parkinsonism and allows for a “not rateable scale” if one is unable to assess an element of the scale²

Aim:

- To determine and describe the burden of extrapyramidal side-effects (EPSE) in a specialist inpatient unit

Methods:

Ethical approval was obtained
Ref: ECM 4 (r) (08/11/16)

Inclusion criteria: all consenting patients admitted on the ward on the chosen day & patients well enough to participate

Participants assessed for EPSE with two validated screening tests; the MSAS and BARS

Additional demographic data was collected by means of a self-developed data collection tool

Data was anonymised and input into both Microsoft Excel and SPSS IBM Statistics software

Results:

- There were 8 male (50%) and 8 female (50%) participants with a mean age of 72 years
- Median length of admission was 32 days

Figure 1. No. of patients taking regular medications with potential to cause EPSE

- Nine regular medications associated with EPSE were identified³ - amitriptyline, haloperidol, olanzapine, levomepromazine, metoclopramide, fluoxetine, escitalopram, diazepam and bromazepam

Figure 2. MSAS and duration of treatment with medications associated with EPSE (n=number of medications)

MSAS						
Number of EPSE causing medications (n)	Normal (<3)		Minimal degree of movement disorder (3-5)		Clinically significant degree of movement disorder (6-11)	
0	n=2	(40 %)	n=3	(60 %)	0	n=5
1	n=5	(71 %)	n=2	(29 %)	0	n=7
2	0		n=2	(100%)	0	n=2
3	n=1	(50 %)	0		n=1	(50 %)
Total (n)	n=8	(50 %)	n=7	(44 %)	n=1	(6 %)
						n=16 (100%)

Table 1. MSAS scores and number of medications associated with EPSE

Figure 3. Barnes Akathesia Rating Scale Scores

- One patient (6%) scored 1/5 in BARS
- It was appropriate to examine 2 (12.5%) patients both seated and standing
- Risk factors – 6 (38%) patients had one, 3 (19%) had 2 and 1 patient (6%) had 3 risk factors for EPSE
- 3 patients with 1 risk factor and 2 patients with 2 risk factors scored 3-5 with MSAS
- The patient with 3 risk factors scored 6-11 on the MSAS
- The remaining 4 patients scored <3

Strengths & Limitations:

- To our knowledge this is the first study to examine EPSE in a palliative medicine inpatient population
- The data was examined using bivariate and multivariate analysis; however, due to small numbers it was not possible to run inferential statistics

Conclusion:

- 50% screened positive for EPSE
- The complete BARS was unsuitable for most participants (87.5%)
- The MSAS while allowing a not-rateable score may underestimate EPSE
- The frailty of an inpatient unit population impacts on applicability of screening tools and may therefore underestimate the burden of the problem in this population
- Development of a population-specific screening tool warrants further investigation

References:

1. Barnes TR, A Rating Scale for Drug-Induced Akathesia. British Journal of Psychiatry. 154:672-676, 1989. 2. Simpson GM, Angus JWS. A rating scale for Extrapyramidal side effects. Acta Psychiatrica Scandan. 3. Martindale – The Complete Drug Reference. Edited by Alison Brayfield. Published by Pharmaceutical Press.