

Aim and Objectives to describe the economic and clinical impact of interventions performed by pharmacists in the chemotherapy preparation unit at Sultan Qaboos University Hospital (SQUH).

Material and Methods This was a retrospective analysis of pharmacists' interventions on injectable chemotherapy orders between January and December 2021. At SQUH, chemotherapy including biologicals/targeted therapies are centrally prepared within the pharmacy. SQUH is a tertiary care multi-speciality hospital in Oman. Chemotherapy prescriptions were routinely verified by trained pharmacists against set treatment protocols and in accordance to patients' clinical and laboratory parameters prior to preparation/mixing. Consequently, a proportion of prescriptions was withheld on the day and differed to another subject to patients' conditions. The direct cost reduction of unprepared doses was calculated.

The remaining prescriptions were screened for any DRP prior to mixing/preparation and PI were then documented on a specific form that was incorporated into the electronic patient record. Each intervention was then graded according to predefined criteria as death, major, moderate and minor according to the associated potential harm prevented.

Results A total of 9,515 orders were received in chemotherapy preparation unit including 18,408 individual injectable medications prescriptions, for 1,096 patients during 2021. A total of 4,440 interventions were performed on the individual medication prescriptions representing 24.1% of total orders. Prior to mixing, 4,069 orders (22.1% of total) were differed and the estimated potential direct cost reduction from the unprepared doses was around 1,000,000 OMR (2,000,000 €). A total of 303 PI were documented and 96% of them were accepted by the prescriber. The most common type of PI was dose adjustment (37.0%) followed by omission (17.2%) and wrong cycle (13.3%). PI prevented death in 1.6% while it prevented a major harm in 3.8%, moderate in 41.0%, minor in 3.0% and improved a suboptimal standard of care in 33.1% of cases.

Conclusion and Relevance Chemotherapy order verification and pharmacists' interventions have minimised potential harm associated with cytotoxic chemotherapy regimens and resulted in considerable cost saving.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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[https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-020-4963-7#:~:text=Pharmacists%20play%20a%20key%20role,proposing%20pharmacist%20interventions%20\(PI\)](https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-020-4963-7#:~:text=Pharmacists%20play%20a%20key%20role,proposing%20pharmacist%20interventions%20(PI))

Conflict of Interest No conflict of interest

4CPS-260 PERSISTENCE, SAFETY AND ASSOCIATED LYMPHOPENIA OF DIMETHYL FUMARATE IN RELAPSING REMITTING MULTIPLE SCLEROSIS, REAL WORLD DATA

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Background and Importance Dimethyl fumarate(DMF) is a hospital dispensing drug indicated for the treatment of relapsing remitting multiple sclerosis(RRMS). Lymphopenia is a frequent adverse event(AE), eventhough it is not an extensive discontinuation cause.

Aim and Objectives To analyse the persistence of dimethyl fumarate and reason of discontinuations. To describe the toxicity of the treatment, focusing on lymphopenia.

Material and Methods Observational, retrospective study of RRMS patients who started treatment with DMF between August-15 and October-2020. They were followed up from the start until August-2022, follow-up of lymphopenia was 22 months. Variables collected: sex, age, previous treatments, date and reason for discontinuation, type of dose-escalation(our standard is 0-0-120mgx7 days, 120-0-120x7,120-0-240x7,240-0-240 onwards), AE and quarterly(± 2 month) lymphocyte levels (classified according to Common Terminology Criteria for AE). Statistics analysed with SPSSv.20.

Results 94 patients were analysed, 68.1%(64/94) female; mean age at baseline is 40.3 years (SD=10.1). Mean EDSS (n=82) 2(0-6,5). No difference in discontinuation according to sex(p=0.385), age (p=0.761) or EDSS (p=0.828). 79.8% (75/94) patients were previously treated with disease modifying therapies. 48.8% (44/94) patients discontinued treatment: AE-47.7% (21/44) (lymphopenia-13.6% (6/44), disease progression-31.8% (14/44), patient's choice-18.2%(8/44), pregnancy planning-11.4% (5/44). 7.4% (7/94) follow-up losses.

Median persistence was 61.6 months (IC95%: 36.9-86.2). Persistence at 6 months was 93.6%, 88.3% at 1 year, 76.4% at 2 years and 56.3% at 5 years. There were 10.6% (10/94) restarts and 13.8% (13/94) patients required slower than our standard dose-escalation.

52.7% (39/74) pretreated patients discontinued vs. 25.0% (5/20) naïve (p=0.028). No difference in persistence (p=0.178).

85.1%(80/94) patients experienced any EA: gastrointestinal-62.5%/50/80), vascular (flushing, heat, hypersensitivity, reddening) -52.2 (42/80), pruritus-28.8% (23/80), other EA-48.8% (44/94).

36.2% (34/94) patients developed lymphopenia; grade (G) 1-34.3%, G2-60.0%, G3-5.7%. At follow-up ending, 14 patients continued lymphopenic: 7.1% (1/14) since beginning, 28.6% (4/14) since 3th month; 28.6% (4/14) since 6th; 7.1% (1/14) since 9th, same since 12th and 15th; 14.3% (2/14) since 18th.

Conclusion and Relevance In our hospital, the largest number of DMF discontinuations are due to intolerance; gastrointestinal toxicities mostly observed. Despite the higher discontinuation in no-naïve, persistence isn't different.

Lymphopenia appears in similar percentage to observed in clinical trials. As described in these, real-life data on lymphocyte levels may decrease during the first year of treatment, but stabilise after a few months, recovering normal levels most of patients

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest