Assignment ADR Case Series

Aim
The aim of this exercise is to familiarize the students with the concepts of causality assessment.
In this exercise students are trained in (i) causality assessment, (ii) signal detection, (iii) clinical implications of ADRs.
This assignments can be used for training PV Key aspect 1 (Importance of PV), 2 (Preventing ADR), 3 (Recognizing ADR), 4 (Managing ADR).

Source
The Netherlands Pharmacovigilance Centre Lareb, WHO Collaborating Centre for Pharmacovigilance in Education and Patient Reporting

Learning outcomes
The student, …

- … has knowledge about ADR classification, risk factors, confounding factors, and epidemiology.
- … knows how to apply clinical reasoning and causality reasoning when encountering a patient case with a potential ADR.
- … develops an open mind of adverse outcomes of drug use in pharmacotherapy.
- … understands how spontaneous reporting can lead to new information about adverse drug reactions.

Description
This ADR Case Series assignment can be used to analyze a potential ADR signal. A signal is any new information about an adverse drug reaction.
Below, one example has been given from a pharmacovigilance database. But you are free to choose any case-series of a specific drug-ADR association from literature of pharmacovigilance database for yourself, that is applicable for your audience.

General questions for the causality assessment and analysis are:

- Give a description of the drug, the ADR and the patients that use the drug.
- What is already known about this drug-ADR association?
- Assess the causality: of each report and of the series as a whole. How strong is the causality?
- Is this ADR clinically relevant?
- What new information can be learnt from your analysis of this case-series?
- What do you advice healthcare professionals and patients about this association?

Example:

Bupropion with mydriasis

Report nr	Gender, age, reporter	Suspected drugs, dose, indication	Concomitant	Reaction	Latency, action, outcome

A 28572	F, 34, year, General Practitioner	bupropion tablet mga 150mg, 1 dd1 Tobacco use disorder, unspecified use	ethinylestradiol/ levonorgestrel dragee 50/250ug	mydriasis, insomnia ,hyperhidrosis ,dyspnoea ,anxiety	4 Day, Drug withdrawn, not recovered/not resolved *(at time of reporting, that is 1 day after stop)*
B 239238	F, 30, year, Consumer	bupropion tablet mga 150mg, 1 dd1 Anxiety		Mydriasis *(can't leave the house, as if MDMA was used)*	9 Day, Dose not changed, Not recovered/not resolved
C 245448	F, 26, year, Specialist doctor	bupropion tablet mga 150mg, 1 dd 1 Depression	citalopram tablet omhuld 10mg	mydriasis	24 Hour, Dose not changed, Unknown

<u>For calculation of the reporting odds ratio (ROR):</u>
Please note that ROR is the disproportionality measure that we use at Lareb, can be substituted for any other measure.

The database of the national pharmacovigilance centre contains 3 reports of mydriasis and bupropion. There are 175 other reports on bupropion, there are 832 other reports of mydriasis and other drugs. The database contains a total of 202352 reports.
The database of the WHO contains 180 reports of mydriasis and bupropion. There are 10095 other reports on bupropion, there are 58450 other reports of mydriasis and other drugs. The database contains a total of 15651468 reports.

Questions:

- Give a description of the drug, the ADR and the patients that use the drug.
- What is already known about this drug-ADR association?
- Assess the causality: of each report and of the series as a whole. How strong is the causality?
- Calculate the Reporting Odds Ratio: what does this information add?
- Is this ADR clinically relevant?
- What new information can be learnt from your analysis of this case-series?
- What do you advice healthcare professionals and patients about this association?

Extra: Students can prepare a report, an oral presentation or a poster presentation to present their findings.