SIGNAL DETECTION IN VETERINARY PHARMACOVIGLIANCE - THE EUROPEAN APPROACH

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It is foreseen in the current EU legislation that "One of the aims of pharmacovigilance is the detection of new safety signals in relation to the use of Veterinary Medicinal Products (VMPs). A signal should be considered as information reported on a possible causal relationship between an adverse event and a VMP, the relationship being unknown or previously incompletely documented." Signal detection consists in the starting point of a wider sequence: the signal management process, including successive validation and assessment steps, and finally resulting in recommendations for appropriate actions in response to any confirmed safety signal.

The main principle of signal detection is therefore the analysis of reported pharmacovigilance data, to highlight any potential abnormal frequency of given drug-event associations. Historically, such monitoring has been performed by pharmacovigilance assessors, based on their daily practice and expert judgment. Yet, statistical techniques are now available to provide a valuable aid to perform an automated screening of pharmacovigilance data and early detection of potential signals.

Several tools have now been in use for a couple of years in human pharmacovigilance, and they are also of growing importance on the veterinary side. The purpose of these tools is mainly to provide measures of disproportionate reporting from Adverse Events Reports (AERs) data, even in absence of exposure figures. At the European Medicines Agency (EMA) level, as well as in some European National Competent Authorities (NCAs) systems, the Proportional Reporting Ratio (PRR) has been elected as the reference tool. Yet, the use of such devices is heavily dependent on the quality of reported data. In particular, the coding of product names and clinical signs have to be of a great accuracy and homogeneousness (which is supported by the systematic use of standard terminology such as VeDDRA terms – to code clinical signs – and the EU Veterinary Medicinal Products Dictionary) to allow an exact and repeatable definition and analysis of drug-event couples. Moreover, data stratification hypotheses have to be carefully defined and taken into account to guarantee a valid interpretation of PRR values.

At the EMA level, a systematic surveillance process is in place for all Centrally Authorized Products (CAPs), based on periodic

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assessment of pharmacovigilance data registered in the European database (EudraVigilance Veterinary). Specific information tools have been designed and are now hosted by the EMA, for the data mining and performing of predefined signal detection requests (Data Warehouse), as well as for the recording of surveillance results and recommended actions (FileMaker Pro).

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