Factors influencing antibiotic prescribing habits and use of sensitivity testing among veterinarians in Europe


Context
Despite evidence indicating that the problems associated with antibiotic resistance in people are largely due to the use of antibiotics in animals, their use in animals is currently under close scrutiny. In order to preserve the ability to treat animals with effective antibiotics and to minimise risks to humans, it is important that the use of antibiotics in animals is conducted responsibly. To enable this, it is necessary to understand the factors that influence veterinary antibiotic prescribing, including the use of antibiotic sensitivity testing.

Main conclusion
While many practitioners usually follow responsible use principles when prescribing antibiotics, there is a need to increase this practice. Ways to achieve this include the delivery of continuous professional development training courses on antibiotic prescribing and the publication in veterinary journals of articles on antibiotic resistance, as well as real-life examples of some of the challenges veterinarians can face when selecting the appropriate antibiotic product for a specific case.

Antibiotic sensitivity testing is an important tool but is currently primarily used after the initially selected antibiotic has failed to work. If such testing is to be deployed more widely, there needs to be future innovation and development of practical sensitivity tests which provide rapid and meaningful results at a reasonable price.

Approach
The Heads of Medicines Agencies and the Federation of Veterinarians of Europe undertook a survey to gain a better insight into the decision-making process of veterinarians in Europe when selecting which antibiotics to prescribe. The survey, which was web-based and available in five languages, was completed by 3004 practitioners from 25 European countries. The results were analysed by type of practitioner (food-producing animal, companion animal, equine) and country (only for Belgium, Czech Republic, France, Germany, Spain, Sweden and UK).

Results
The most important factors governing the selection of antibiotics are sensitivity test results, a veterinarian’s own experience, a consideration of the risk of antibiotic resistance developing as a result of their use and ease of administration. Published literature and training were identified as important sources of information.

The majority of practitioners (80 per cent) usually take into account responsible use warnings on the Summary of Product Characteristics (SPC) and package leaflet for veterinary medicines. However, some (5 per cent) never do. Reasons cited for not following such warnings included issues around ease of administration, operator safety and owner request.

The frequency of antibiotic sensitivity testing varied significantly between the different types of practitioner and between countries.

Antibiotic sensitivity testing is usually performed where a treatment failure has occurred. Important incentives to encourage more widespread use of testing include a shorter time between testing and results and lower cost.

Interpretation
The survey was not based on a random selection of practitioners, but instead relied on practitioners volunteering to answer the survey. This may have introduced a degree of bias into the results, with those replying more likely to be interested in the area of antibiotic resistance.

The results suggest that when seeking to influence the behaviours of different types of practitioners, training and publications in veterinary journals are effective means to do so.

Greater promotion and hence awareness of SPCs and public assessment reports for veterinary medicines, as important official sources of information to help inform prescribing, is necessary.

Owner requests are still, to some extent, acting as a barrier to responsible use of antibiotics; it is therefore necessary to communicate the problems of antibiotic resistance to animal owners and to explain why it is important that their veterinarian prescribes antibiotics responsibly.

The use of antibiotic sensitivity testing appears to be more widespread in those countries where guidelines aimed at veterinarians strongly recommend its use, for example, Sweden and Germany. It may be appropriate for more countries to make similar recommendations in their own guidelines or, where guidelines do not already exist in a country, to adopt workable guidance from other countries.

Significance of findings
The findings provide information which will allow organisations such as the European Commission and European and national veterinary associations to develop and improve existing strategies and training programmes intended to help ensure the responsible prescribing and use of antibiotics in animals.
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