

ANTIMICROBIAL RESISTANCE

Antimicrobial resistance: getting the message across

'The most important question that we have to ask is: does this patient really need antimicrobials?' said Alexandra Vilén, chair of the FECAVA hygiene working group, when introducing a symposium on antimicrobial resistance during the recent FECAVA congress in Dublin. Georgina Mills reports

'If I am sending a radio show out, but no-one has the receiver, no matter how good that show is, the message is not going to get through.' This is how Christina Greko, of the National Veterinary Institute in Sweden, explained the difficulty of getting the correct message across about antimicrobial resistance and the importance of obtaining the cooperation of practising clinicians.

She was speaking during a symposium on antimicrobial resistance organised by the Federation of European Companion Animal Veterinary Associations (FECAVA). The symposium was held during the recent FECAVA congress, which took place in Dublin from October 3 to 5.

Dr Greko explained that, in Sweden, there was a high level of insurance coverage and a steadily increasing number of vets, 42 per cent of whom worked with companion animals. From surveys, it was apparent also that the Swedish population had a high awareness of unnecessary use of antimicrobials, and was on the lower end of the scale in terms of antimicrobial use. Antimicrobials were prescription only in Sweden and dispensed from a pharmacy. This meant that all sales could be recorded in a database and, therefore, if a reduction occurred, the authorities would know.

Initially, it was thought that farm animals were the main problem regarding antimicrobial use but data had shown that there were 400 antimicrobial prescriptions per 1000 dogs, which was almost as many prescriptions as for people. Furthermore, she explained, the number of prescriptions had increased by 27 per cent in the 10 years between 1996 and 2006.

However, since 2006, Dr Greko said, the amount of antimicrobials used in dogs had fallen by 38 per cent. This was not thought to be due to new guidelines on antimicrobials, but to an 'enormous wave' of activity. The media discussed the story of methicillin-resistant *Staphylococcus aureus* (MRSA) and methicillin-resistant *Staphylococcus pseudintermedius* (MRSP) and this led to more attention on the use of antimicrobials, both in the veterinary world and among the general public. Since 2006, there had been continued media attention, the launch of a journal on MRSA and workshops and seminars, which had continued to enforce the message of



Speakers at the symposium on antimicrobial resistance during the FECAVA congress in Dublin on October 4. From left to right Luca Guardabassi, Joe Collins of the veterinary council of Ireland, Christina Greko, Jill Moss and David Lloyd

responsible use of antimicrobials. Dr Greko also believed that one of the key reasons veterinarians had started to consider their usage of antimicrobials was that guidelines were printed and sent out to all practices, rather than just being available online.

Since 1998, the Swedish Veterinary Association's policy had stated that only when an animal had a bacterial infection that was not likely to resolve without antimicrobials should antimicrobials be used; this policy was confirmed in a regulation in 2013. The results had been promising, she said. The number of antimicrobial prescriptions was now 251 per 1000 dogs and there had been a major reduction in the use of cephalosporins (by 67 per cent), thought to be through rational use by dermatologists.

Above all, what had changed was the attitude of veterinary surgeons, Dr Greko concluded. It was one thing to have the knowledge that things should change but until the attitude had changed, no action would be seen. Clinicians had to understand that it was something that affected them personally, and was something that they had to do themselves.

Decision making

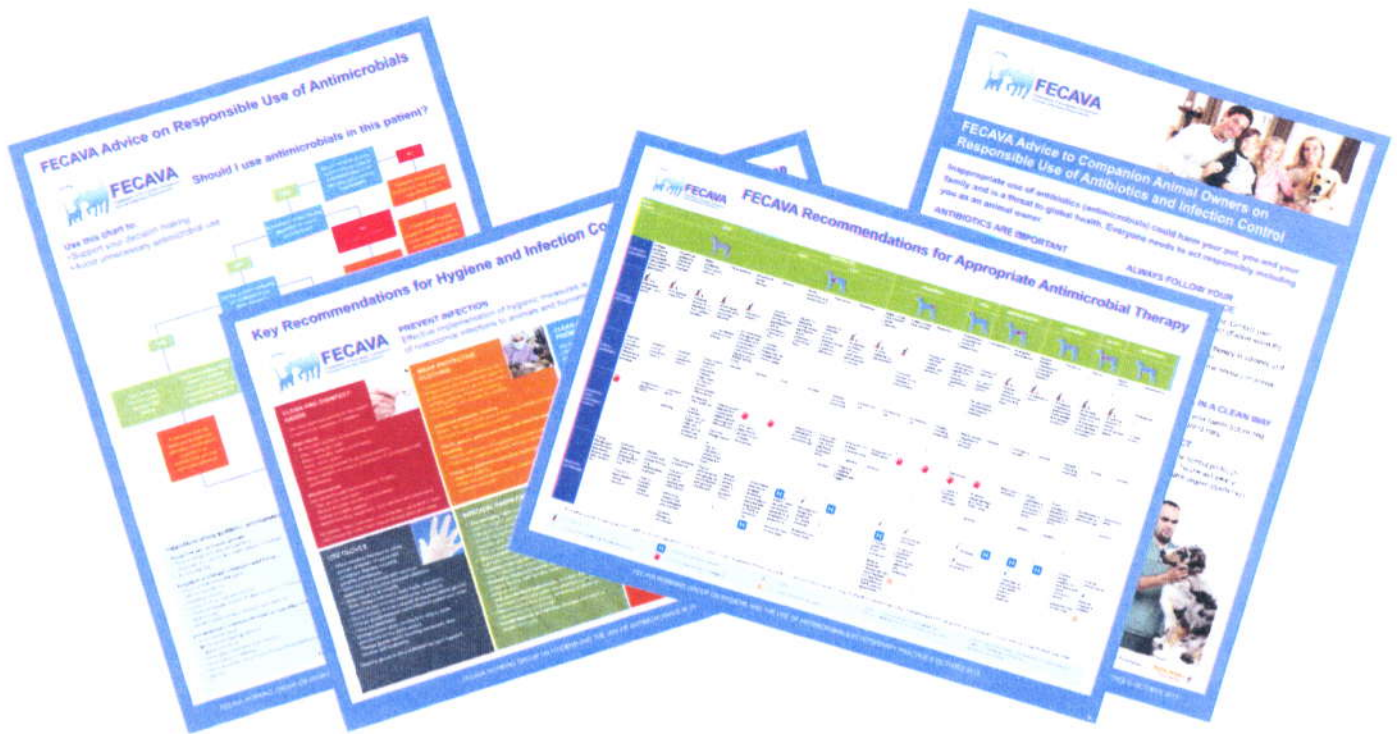
The fact that antimicrobials were needed, and had been highly successful in treating infections since their arrival, but had the side effect of resistance presented a dilemma, according to Luca Guardabassi, a veterinary microbiologist at the University of Copenhagen, who discussed the critical steps in decision making when considering antimicrobials. Resistance, he said, was a natural process for bacteria, and antibiotics would select for these resistant pathogens,

therefore promoting their own inefficacy.

Resistance would never be eradicated, he continued, but it could be controlled by balanced and rational use. This in itself was a controversial issue but, in his eyes, it was the use of antimicrobial agents in order to maximise therapeutic efficacy and minimise the risk of selecting resistant bacteria in the strain that was causing infection. Commensal flora must also be acknowledged as this was where the resistance was established before causing infection in the patient, he said.

Antimicrobial therapy should only be used when based on well-grounded clinical data, for instance, susceptibility testing. 'Bacterial culture is never contraindicated and is strongly recommended in many situations,' he said. In Denmark, susceptibility testing was encouraged as it not only saved time and money for the client, but allowed monitoring of antibiotic resistance. Reporting resistance was encouraged because most of the time it was only the complicated cases that were known, and this might mean that the actual level of resistance was higher than expected. Surveillance also worked hand-in-hand with policy, Professor Guardabassi said. Once a policy was written, it might change as a result of the trends in antimicrobial resistance, which were brought to attention by surveillance.

Although a susceptibility report would inform a veterinary surgeon of the resistance of the bacteria present, this might not always be solid evidence for treatment, he continued. If a mixed culture had been sent to the laboratory, for example from a wound infection which might involve bacterial species, this could lead to the overuse of broad spectrum drugs. In these



The FECAVA working group on antimicrobial resistance has produced a number of posters for veterinary surgeons and nurses, including the above posters on advice for clinicians on responsible antimicrobial use; recommendations for appropriate antimicrobial therapy; hygiene and infection control in veterinary practice; and advice to companion animal owners on responsible use of antibiotics and infection control

cases, Professor Guardabassi advised, the aim should be to target the primary pathogen. In addition, he said, the lab should advise veterinary surgeons on the results of the test, and tell them the clinical relevance. Good communication between the lab and practice was key. 'Reporting accurate but insignificant results can be as counterproductive as reporting inaccurate results.'

Delivery and implementation

Following on from the discussions of how to engage clinicians and how to decide on use, David Lloyd, professor of veterinary dermatology at the Royal Veterinary College, spoke about how guidelines should be put together and how they should be implemented. 'We need to make sure that when we do prepare guidelines, we do have written into them the basis for evaluation, determination and what is relevant in terms of the evidence base,' he said.

As was alluded to in the other talks, there were stark differences between different countries and, although use of antimicrobials was less in companion animals than many other sectors, the nature of the work, in close contact with clients, meant that there was a big risk for transmission of resistant bacteria. Vets needed to be on-board with the concept of One Health, he explained; they encountered both animals and people in their day-to-day activities, and vets themselves might act as carriers for resistant bacteria when leaving the practice after a day's work.

Professor Lloyd went on to discuss

how the careless selection of antimicrobials could lead to treatment failures and the acquisition of resistance, saying that it was very important for veterinarians to deal with the problem now, rather than waiting for a situation where resistance was out of control. This was very easy to talk about, he said, and in theory the solutions were simple, but in reality it was a complex process.

Discussing what led to non-compliance with guidelines, he said that there were many issues, such as the notion that guidelines were based on a general consensus rather than scientific evidence, that they were a threat to clinical freedom or that they were based at the national or even international level, and were therefore not directly relevant. If clinicians could not perceive the benefit of guidelines then non-compliance would be an issue. Another big hurdle was that some clinicians might not accept that there was a problem, especially if they had not seen the issues personally.

Because of these issues, when developing guidelines there were a number of things that could be done to ensure compliance and understanding, Professor Lloyd said. Guidelines needed to be written by a multidisciplinary board and be based on scientific evidence; if no evidence was available, other supporting evidence should be provided. 'We need to be much more critical, we need to have evidence which is really firmly based or we need to state how and why we are using it,' he said. Involving clients as well as vets was another way to promote guidelines, as if clients were

interested in the topic, the vets might feel that they had to act.

In addition, he said, delivering guidelines was not enough; clinicians had to perceive the need for them, study them and have incentives to use them. Guidelines should have an initial expert review and assessment, and also undergo continual review and updates.

The final talk of the day was from Jill Moss, founder and president of the Bella Moss Foundation, which is a charity that promotes prudent antimicrobial use and hygiene in both human and veterinary medicine. Speaking from a personal level, Ms Moss described how her dog had died from MRSA in 2004 and that this had led to the charity being founded the following year. The charity now works to link patients and veterinary clients with best practice resources and good advice. She explained how the charity works towards a One Health initiative and helps to explain the link between antimicrobial resistance in humans and animals.

■ Three leaflets on responsible antimicrobial use produced by the Federation of Veterinarians of Europe (FVE) have been translated into all the official EU languages. The leaflets, 'How we can safeguard antimicrobials now and for the future', 'How to use antibiotics responsibly: advice for companion animal owners' and 'How to use antibiotics responsibly: advice for veterinarians', can be downloaded from www.fve.org

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