Driving the debate

Peter Jones, former head of the veterinary unit at the European Medicines Evaluation Agency and chair of the British Veterinary Association’s Medicines Group, notes that antimicrobial resistance is a hot issue in Brussels. “It is the Scandinavian countries that are the driving force; they think that the veterinary profession has not done enough to tackle the issue. They are saying that it is too late for the vets, who haven’t taken on board the need for responsible use. Therefore, legislation is needed to stop veterinary use of certain antimicrobials.”

Indeed, the European Commissioner for Health and Consumer Policy John Dalli has warned that specific controls on antimicrobials will be considered in the review of licensing regulations for veterinary medicines due to be completed next year.

Dispensing antimicrobial drugs

Veterinary practices have long accepted the need to place their stocks of potent medicines under lock and key, or risk losing them during the night. These days there is a new threat from a group that wants to clear the dispensary shelves of valuable drugs – but they are Brussels-based politicians rather than criminals.

John Bonner finds out what the profession needs to do if it wants to retain the right to dispense its current range of antimicrobial products.

There were heart-felt, yet somewhat muted celebrations for the leaders of the veterinary profession when a European Parliament Committee rejected a proposal in April to stop practitioners selling medicines to their clients.

Senior officers of the Federation of Veterinarians of Europe knew that their lobbying had been a key factor in blocking a plan that could have had damaging effects on the profitability and practicality of practices across Europe.

But they realised that the threat had not been killed off and, like the monster in a horror movie, it would likely come back to menace them before they could sleep easy in their beds.

A major reason why the Committee threw out the plan was because it conflated two entirely separate issues – an economic argument against the veterinary profession’s supposed ability to control the medicines supply chain, and a public health argument against allowing vets to dispense antimicrobial drugs that may be needed in human medicine.

While MEPs were un convinced that removing the right to dispense any drugs was a proportionate response to the former issue, there was much more sympathy for the second argument. There is a widely held view in the European institutions that veterinary use of antimicrobials is contributing to the emergence of resistant bacterial strains in humans and could compromise doctors’ ability to treat life-threatening diseases.

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Indeed, the European Commissioner for Health and Consumer Policy John Dalli has warned that specific controls on antimicrobials will be considered in the review of licensing regulations for veterinary medicines due to be completed next year.
Dr Jones insists that it is not too late for veterinary surgeons to preserve their current armoury of antimicrobial products, but they do need to provide convincing proof that these products are being used responsibly. It may be necessary to consider formularies, written protocols defining which drugs are to be used in which circumstances, a move that has already occurred in the National Health Service. “Vets wouldn’t like that because the belief that you should rely on your clinical judgement is long established and runs very deep. But if the profession doesn’t accept this as a wake-up call, then it is certainly going to lose some classes of drugs that are needed in practice – the situation is that serious.”

**Restricting new medicines**

As a veterinary surgeon who spent most of his career in the field of public health, BVA Past President Bill Reilly says many medics share the view of the former Government Chief Medical Officer Liam Donaldson that the fluoroquinolones and the third/fourth-generation cephalosporins are too valuable in human medicine to be used by vets. While Professor Reilly doubts there is any scientific justification for taking away existing products, there may be one for restricting vets’ access to any new products. However, he warns that any future decisions on medicines availability may be driven by political rather than scientific judgements.

The overriding concern of the Scandinavians has been antimicrobial use in agriculture and the risk of food-borne transmission of resistant bacteria to consumers of animal protein. But there is no doubt that small animal practitioners will increasingly be the focus of those wishing to curtail veterinary use of the products. Bill Reilly says there is little solid evidence to identify the most important cause of resistance in enteric bacteria, but he suggests that companion animals are likely to pose far less of a threat than other humans or farm livestock. Nonetheless, it would be foolish to discount the risk of transmission to a child cuddling a guinea pig that has been treated with a fluoroquinolone, used quite legitimately in that species, he says.

**Growing concern**

With epidermal pathogens like MRSA, there is even greater cause for concern as there is growing evidence that the Staphylococcal strains are much less species-specific than formerly believed, warns Tim Nuttall, senior lecturer in dermatology at Liverpool Veterinary School.

If a pet animal is to pick up an MRSA or MRSP (metillin-resistant *Staphylococcus pseudointermedius*) infection it is likely to be during a visit to their veterinary practice.

“Less than 1 percent of normal healthy dogs carry these organisms but in dogs that are visiting veterinary practices the prevalence is much higher, 3–10 percent. Meanwhile, surveys have shown that between 7 and 13 percent of veterinary professionals are carriers, a much higher rate than for the typical human population,” Dr Nuttall explains.

If there is MRSA and MRSP contamination of the veterinary practice environment, then that is a clear indication of inadequate hygiene standards, but are unsatisfactory prescribing practices a factor behind the growing frequency of MRSA cases in veterinary patients? Dr Nuttall fears that there may evidence to back that claim. Staff at Liverpool Veterinary School have carried out a survey looking at practitioners’ choices for antimicrobial therapy in particular scenarios. The results are still being analysed and will be published soon but, in essence, the study does show that a minority of practitioners are using inappropriate drugs and are even using products ‘off label’ when there is an appropriate first- or second-line antibiotic available, he says.

**Association advice**

To encourage responsible prescribing by all veterinary practitioners, the BVA produced a poster setting out the basic principles and the specialist divisions are providing further guidance relevant to the particular species. In order to widen awareness, the Small Animal Medicine Society (SAMSoc) has worked closely with BSAVA to provide relevant guidelines for vets in small animal practice. This new poster is enclosed with this issue of *companion* and is also available to download for members online.

Ian Battersby, of Davies Veterinary Specialists and one of the main authors of the guidelines, says the poster was designed to encourage rational decision-making. “We have to look at the spectrum of antibiotics that are available to us and choose the most appropriate one rather than going for the heavy-hitting product straight away. The more we use antibacterial agents, the more we will encourage resistance to develop,” he said.

“The drug companies are no longer prioritising antimicrobial research and there may not be many new options coming on to the market so we have to protect what we have already got.”

The SAMSoc/BSAVA guidance is also intended to help practitioners make the right choice in situations where they may face contradictory demands. Tim Nuttall points out that there may be situations in which the requirements of the Cascade system conflict with the principles of good prescribing practice – for example, the fluoroquinolones may be the only licensed product for use in certain exotic species as there will have been no proper clinical trials in those patients with other older products.

“Clinicians need to use their common sense, clinical knowledge and published efficacy, safety and MIC data in choosing the most appropriate antibiotic – basically that is the lowest tier that will still get the job done,” says Dr Nuttall. “That preserves the higher tier drugs for when they are really needed. That is how these drugs are used in human medicine and those are the rules that the veterinary profession will be expected to follow.”
Dispensing antimicrobial drugs

He urges colleagues to make much wider use of culture and cytological analysis to ensure that the infective agent is accurately identified and appropriate treatment chosen. There should also be more frequent use of alternative administration strategies – topical application of antimicrobials is a reasonable alternative to systemically administered drugs. It may often be more effective and is much less likely to encourage selection of resistant strains.

Another thing that practitioners need to change is the vocabulary they use to describe antimicrobial products. “We should avoid using terms like strong or weak antimicrobials. Just because a drug is an old one, doesn’t mean it is weak. It may be just as suitable as a tier 2 or 3 drug when used in the appropriate situation. The newer drugs are not necessarily more potent or stronger, what they do have is particular properties which mean we should reserve them for the situation in which they are needed, usually where there is a multidrug-resistant organism involved.”

Top priority
Multidrug resistance has always been a far greater danger to human than veterinary patients. So the principles of responsible prescribing that the SAMSoc/BSAVA poster is hoping to encourage in veterinary clinics have been part of the standard procedures in NHS hospitals for many years. Furthermore experience in the human healthcare system has shown that following the rules will produce results. Rigorous attention to improved hygiene standards is a key part of that process and has led to a marked reduction in human MRSA infections over the past decade – “There is no reason to think that this would not be an equally successful approach in small animal practice,” Professor Reilly observes.

Any recent graduate from the UK veterinary schools will be fully aware of the principles of rational prescribing contained in the poster. Those clinicians that are regular attendees at CPD events will also be reasonably well acquainted with the process, but how can we ensure that the message gets through to some of the more insular practitioners identified in the Liverpool study. Ian Battersby believes that every veterinary surgeon has a duty to ensure that the issue remains at the top of the professional agenda. “It is certainly something that I mention every time that I am asked to give a presentation to colleagues.”

This same rigorous approach will be necessary in the advice that practitioners give to their clients, as one of the greatest risk factors for the emergence of antimicrobial resistance is a failure to complete the recommended course of treatment. Small animal practitioners are unlikely to face the same problems that confront their farm practice colleagues in ensuring compliance since their clients are unlikely to encounter the same economic penalties associated with milk withdrawal periods, etc. But a client’s apathy or forgetfulness could create the sort of conditions under which resistant strains may develop. “In human medicine there is a tremendous amount of effort going into patient education. You see posters explaining the issues up in waiting rooms and even in train stations. It is equally vital that we get the same message across through the press and directly in our conversations with clients” says Dr Nuttall.

3 TIER SYSTEM EMPLOYED BY DR TIM NUTTALL FOR THE SELECTION OF ANTIMICROBIALS FOR THE TREATMENT OF CANINE PYODERMA

First-line antimicrobials: clindamycin, lincomycin, amoxicillin/clavulinate, cefadroxil, cefalexin or cefovecin (if administration or compliance is likely to be a problem)
Second-line antimicrobials: enrofloxacin, marbofloxacin, difloxacin, orbifloxacin, pradofloxacin
Third-line antimicrobials: aminoglycosides, ceftazidime, piperacillin, ticarcillin, azithromycin, clarithromycin, chloramphenicol, floxepenicol, tiamphenicol, imipenem, phosphomycin, rifampin
Topical antimicrobials: chlorhexidine, silver sulfadiazine, fusidic acid, mupirocin
Notes: The routine use of tetracyclines and potentiated sulphonamides is limited by the high frequency of resistance in staphylococci. However, these drugs may be useful for MRSA and MRSP infections.