

ADVISORY COMMITTEE ON ANIMAL FEEDINGSTUFFS

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Information Paper

Antimicrobial Resistance – Summary of Royal Colleges of Veterinary Surgeons, Physicians and Pathologists Conference 2 October 2012

Dr Ian Brown: November 2012

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1. This paper provides a summary of discussions from the Royal Colleges of Veterinary Surgeons, Physicians and Pathologists conference on antimicrobial resistance held on 2 October 2012. It also provides a personal view from the ACAF Chairman, Dr Ian Brown.

Introduction

2. I was very grateful to RUMA for sponsoring me to attend the joint meeting of the Royal Colleges of Veterinary Surgeons, Physicians and Pathologists on October 2nd 2012 held at the Royal College of Physicians, London.
3. The meeting was technically wide ranging and comprehensive, bringing together national and international experts from diverse scientific backgrounds.

Discussion

4. The initial introduction from Nigel Gibbens, CVO UK, set the scene with the statement, 'Production systems must not rely on antimicrobials for the health of that system', and this was followed by a comment by David Walker, (for Dame Sally Davis), that 'urgent action and response is required with a five year action plan that is outlined in the annual report of Dame Sally. (We are now aware of the £500,000 available from Government for research). The introductions were completed by David Heyman, Chair of the HPA who stated that 'this is a shared risk (management) responsibility between animals and humans' – of course animals do not manage themselves in this respect!
5. Various technical detailed biological genomic presentations then took place considering gene acquisition, the role of the environment and that antibiotics drive resistance and mutations. This comment was made by Professor Gillespie, from St Andrews, who also stated that organisms acquire resistance if (the condition) is treated inadequately. Not new but worth repeating, i.e. 'Always finish the course of antibiotics prescribed, even if you feel much better' – people don't though and this is a so 'human' medical problem. Prof. Gillespie considered that the driver of resistance is human medicine prescribing, not veterinary.
6. Professor Peter Hawkey from the West Midlands HPA described an increase in UK (human) antibiotic prescribing, especially penicillins', discussed the overlap of organism type between humans and animals and spoke of his particular concern about the ESBL enzymes in E.coli and the resistance genes, CTX-M- 14,15 etc. This is being isolated all over the world according to Professor Piddock from Birmingham, and Chris Teale of AHVLA considers resistance to be a two way road (animals to humans and visa-versa) remembering that resistance genes also exist in naturally occurring microorganisms. Professor Susan Dawson, University of Liverpool,

considered antibiotic resistance in companion animals and stated that resistance was mainly from human to animal. Similarly, other speakers that followed considered resistance to be emerging from human use of antibiotics, without any clear link to veterinary use.

Summary

7. In summary therefore, the evidence for the emergence of resistance has been placed at the door of human rather than veterinary use with transference of AR from humans to animals although this is not mutually exclusive. The matter is being complicated and compounded by unrestricted availability of a range of antibiotics without prescription or monitoring in some highly populated regions of the globe including China and India and the multinational drug manufacturers are less inclined to invest in newer compounds because of the massive discovery and registration costs and the short patent life of the product.
8. Unlicensed and illegal generic copies are further eroding any commercial investment and make controlled and effective use impossible. Professor Duncan Maskell from Cambridge spoke passionately on this point, stating that antibiotics would become increasingly useless unless globally driven protected investment occurred for the discovery and production of tailor made highly specific antibiotic preparations. This matter needs global initiatives to prevent the complete loss of one of the most effective therapeutic agents of the past 100 years that will eventually be to the detriment of both human and animal welfare.

**Dr Ian Brown
November 2012**