

COMMON APPROACH OF G7 CVOs ON THE DEFINITIONS OF THERAPEUTIC, RESPONSIBLE AND PRUDENT USE OF ANTIMICROBIALS IN ANIMALS

Antimicrobial resistance (AMR) is an increasing global health problem and one of the major concerns for economic impacts at global scale risk. Therefore, the health and economic consequences require preventive and risk minimisation measures at all levels, national and international.

According to the first meeting of the G7 Chief Veterinary Officers (CVO) Forum held in Tokyo on November 24-25, 2016, the CVOs committed to establishing a sub-working group to find a common approach on the definitions of therapeutic, responsible and prudent use of antimicrobials.

A common approach plays an important role in establishing an effective response to tackle AMR among other global common challenges in public and animal health.

The G7 CVOs Technical Meeting held in Italy on March 14-15, 2017 was a good opportunity to share a common approach for best practices and for an enhanced and more practical definition of prudent and responsible use of antibiotics in animals, starting from a list of definitions given by international organizations, national or supranational authorities, or relevant stakeholders in the sectors of primary production, pharmaceutical industry and veterinarians in Europe and reasons or circumstances of their usage in food producing animals acknowledging that this topic is also of interest for companion animals.

At the Rome Meeting of 14-15 March 2017, the G7 Countries and the three International Organizations (WHO, FAO, OIE) shared their points of view on the current and proposed definitions, and drafted a document for further discussion through an Electronic Working Group.

During the G7 CVOs Second Forum, held in Rome on 5 October 2017, the document has been approved.

The optimized, responsible and prudent use of all classes of antibiotics is a key action to control and minimise the impact of antimicrobial resistant pathogens in animals, humans, plants and in the environment. In the sector of food-producing animals, the more we improve animal health, promote good farming practices, reduce the prevalence of pathogens and prevent diseases through vaccination and biosecurity measures at farm/holding level, the healthier the animals will be, and the less we will need to administer antibiotics during a given production cycle.

The scope of the G7 CVOs has been to work only on antibiotics and not on antifungals, nor on antivirals, nor on antiprotozoals, because antibiotics represent the far most sold/prescribed/used subcategory of the more general category antimicrobials, especially in animals.

All antibiotics are antimicrobials, but not all antimicrobials are antibiotics. Although historically the term “antibiotic” was previously limited to naturally occurring substances and the term “antibacterial” better encompasses both naturally occurring, semi-synthetic, and synthetic products, for the purposes of this document, however, “antibiotics” is used as a synonym for “antibacterials”.

For the current definitions of the terms described on the next few pages, see Annex.

Agreed definition of antimicrobials

- “refers to naturally occurring, semi-synthetic or synthetic substances that exhibit antimicrobial activity to kill or inhibit the growth of micro-organisms at concentrations attainable in vivo. The term antimicrobials is a collective for anti-virals, anti-bacterials (i.e., antibiotics), anti-fungals, and anti-protozoals”.

Agreed definition of antibiotics

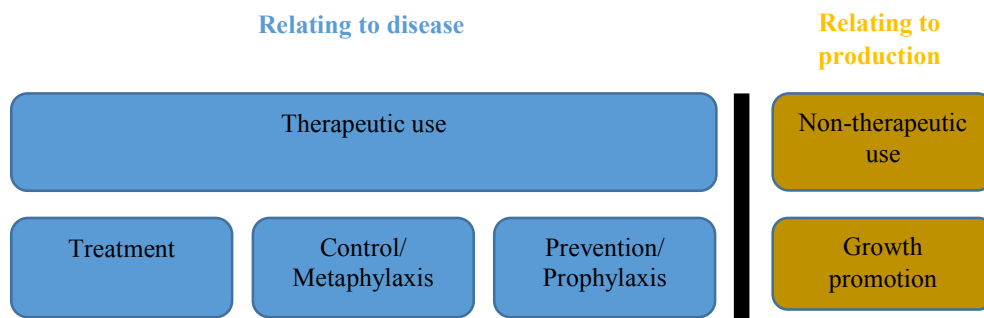
- “refers to naturally occurring, semi-synthetic or synthetic substances¹ that exhibit antibacterial activity to kill or inhibit the growth of bacteria, at concentrations attainable in vivo. Biocide substances, such as disinfectants or antiseptics, are excluded from this definition”.

¹Some heavy metals are used as medicinal products due to their antibacterial properties, and co-select for AMR.

Agreed definition of therapeutic

- “refers to administration of an antibiotic related to bacterial disease and encompasses treatment, control/metaphylaxis and prevention/prophylaxis”.

Figure 1 - Schematic for distinguishing between the concept of using antibiotics for reasons relating to disease and using them for production reasons



Note of Presidency: The scheme is a simplified representation of reasons and circumstances for antibiotics use in animals, and it is a compromise representation.

Therapeutic use is to be considered as “relating to disease”.

However, the definition of prevention/prophylaxis is limited to administration of antibiotics to animals/groups of animals in the absence of disease in the individuals/groups (preventive use).

Treatment and control/metaphylaxis refer to individual animals/groups of animals affected by a bacterial disease (treatment) or in contact with animals affected by a bacterial disease (control/metaphylaxis).

Agreed definition of treatment

- “refers to the administration of an antibiotic to an individual animal or a group of animals with a bacterial disease”.

Recommendations

The administration of antibiotics for treatment should be based on a diagnosis of a bacterial disease and prescribed by or on the order of a veterinarian or other suitably trained person authorised in accordance with national legislation.

Agreed definition of control/metaphylaxis

- “refers to the administration of an antibiotic to healthy animals in a group where clinical bacterial disease has been diagnosed in a subset of animals within the group. The aim of metaphylaxis is to control the spread of the disease from the clinically sick animals to the other animals in close contact and at risk, which may already be subclinically infected”.

Recommendations

Responsible and prudent control/metaphylactic use should not be systematic, nor routine, nor applied to compensate for poor hygiene or inadequate animal husbandry practices. The decision to administer antibiotics metaphylactically should be based on a diagnosis and prescribed by or on the order of a veterinarian or other suitably trained person authorised in accordance with national legislation, with documented justification and be based on epidemiological and clinical knowledge, an understanding of risk factors associated with the group, and in accordance with pre-established criteria (where available) for initiation of administration of antibiotics.

Agreed definition of preventive use/prophylaxis

- “refers to administration of an antibiotic to prevent the development of bacterial disease in individual animal or a group of animals that is/are at risk but clinically healthy”.

Recommendations

Responsible and prudent preventive/prophylactic use is limited to exceptional cases, only when the risk of bacterial disease is high and consequences are severe and should be based on veterinarian oversight or other suitably trained person authorised in accordance with national legislation.

This use should not be systematic, nor routine, nor applied to compensate for poor hygiene or inadequate animal husbandry practices, and it should be prescribed only for a limited duration to cover the period of risk.

It should always be based on epidemiological and clinical knowledge, with documented justification.

When considering preventive/prophylactic use in a group of animals, it should be focused on subset of animals at highest risk.

Preventive/prophylactic use should always represent a very small proportion of total therapeutic use.

Other important factors to be considered by veterinarians when determining whether a particular antibiotic is appropriate for preventive use include whether: (1) there is evidence that it will be effective in preventing the particular disease, (2) such preventive use is consistent with accepted veterinary practice, (3) the use is intended to address particular bacteria, (4) the use is appropriately targeted to animals at risk of developing a specific disease, and (5) there are no other reasonable alternatives for prevention or intervention.

Agreed definition of Antibiotic growth promoter

- “refers to the use of antimicrobial substances to increase the rate of weight gain and/or the efficiency of feed utilization in animals by other than purely nutritional means. The term does NOT apply to the use of antimicrobials for the specific purpose of treating, controlling or preventing infectious diseases, even when an incidental growth response may be obtained²”.

Recommendations

The use for growth promotion of medically important antimicrobial classes listed³ by the WHO or by equivalent, official national lists, or officially listed in accordance with national official risk analysis should not be permitted in order to prevent cross-resistance to antimicrobials used (or submitted for approval) in humans.

The definition of Medically Important Antimicrobials (MIAs) has been provided by the 5th revision of the document "*Critically important antimicrobials for human medicine 5th revision Ranking Medically Important Antimicrobials for Risk Management of Antimicrobial Resistance due to non-human use*".

The use for growth promotion of antimicrobial classes other than MIAs should be phased out in the absence of favourable risk analysis conducted in line with CAC/GL 77-2011, taking into account CAC/RCP 61-2005.

²Code of Practice to minimize and contain antimicrobial resistance CAC/RCP 61-2005

³Critically important antimicrobials for human medicine 5th revision - Ranking Medically Important Antimicrobials for Risk Management of Antimicrobial Resistance due to non-human use”

<http://www.who.int/foodsafety/publications/antimicrobials-fifth/en/>