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## CHLORAMPHENICOL IN THE DUTCH SITUATION

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The point of view given here on chloramphenicol in the Dutch situation is not necessarily the official point of view in The Netherlands, but rather an assessment of how this situation will develop.

Some statements are in order on the use of animal drugs in general and of chloramphenicol in particular. First of all it must be made emphatically clear that animal drugs like chloramphenicol are actually used to treat animal diseases and are not used primarily to produce residues that bedevil the consumer or the lawmaker who has the interests of the consumer at heart.

However, given the occurrence of residues with the use of a certain animal drug, one must consider a few questions before either banning the drug or continuing its use.

The first thing to be taken into account is whether the drug in question serves a useful purpose in the treatment of animal diseases. Secondly, one should contemplate whether the function of this particular drug can reasonably be undertaken by some other drug that does not have its own residue problem. Thirdly, one should consider whether the residues are harmful to the consumer and on the basis of this, make a policy by which the benefits of the drug are collated with its drawbacks. The drawbacks for the consumer obviously have priority over the benefits for the animal. I think however that on no account should one prohibit the use of a drug, simply because one has a method of detecting residues.

If one applies these considerations to chloramphenicol, the results are complicated.

There is no reason to doubt that chloramphenicol serves a useful purpose in veterinary medicine, as in the treatment of footrot in sheep, ocular diseases and a number of other afflictions. There are alternative drugs available for this purpose, but by and large they are not as effective as chloramphenicol, and most of them have their own residue problem.

There also is no doubt that after treating an animal, residues of chloramphenicol occur, especially in the form of metabolites in a covalent bond with body components.

Given these starting points, one should look for a way to treat animal diseases with or without chloramphenicol, so that the animal products are not burdened with harmful residues. In short, one should look for an alternative to chloramphenicol, or — if that is not possible — find a way to avoid the residue problem.

Not treating the disease at all causes problems in the field of animal welfare and the hygiene of animal products.

In human medicine, chloramphenicol is still used. This already signifies that the drug is indispensable for certain diseases, for nobody in his right mind would use a drug that is potentially hazardous, if there were no need. Especially since in human medicine cost is no object and only medical reasons exist for the use or non-use of a drug. I feel that in veterinary medicine the same necessity for chloramphenicol exists and that in certain cases it is indispensable. Therefore the use of chloramphenicol should continue.

If the use of chloramphenicol continues potential residues should be avoided. The half life of chloramphenicol itself is such that it poses no real residue problem. The problem lies more in the metabolites of chloramphenicol. In an elegant paper, Prof. Schmid (1983) of the University of Munich dealt with the significance of these metabolites in the residue problem. He comes to the conclusion that the most persistent residues are the covalently bound ones.

These covalently bound residues pose no real toxicological hazard however. Still it is not necessarily good that such residues should occur in animal products.

If the consumer does not want residues, we have to ensure that he will not get any, although it is my private opinion that the residue problem should not be cultivated for purposes that have no bearing on the health of the consumer.

To prevent chloramphenicol or its metabolites reaching the consumer some regulation of the use of chloramphenicol is necessary.

It is possible to regulate the problem the hard way by stating withdrawal times restricting the use to certain diseases, and general making life difficult for the user, for the lawmaker and for the lawenforcer.

But a withdrawal time depends very much on the way the drug is applied and on the metabolic and excretory capacity of the animal.

Another solution to the problem is to state categorically that no residues may be detected in animal products. Initially this sounds very simple. In practice it is not so simple, for a detectable residue is something that depends very much on the method of detection used. Life was easy when only microbiological detection systems were available, became more sophisticated with chromatography and became very complicated when immunological methods were developed.

Another problem with withdrawal times is that there are animals such as milking cows and laying hens that continuously produce animal products and that there are animals that become animal products at the end of their life, such as horses and swine. There is obviously a difference in residue hazard when a milking cow is injected with chloramphenicol or when a young piglet is treated with the same drug. In The Netherlands, we are in the process of developing regulations on

chloramphenicol that are both practicable and mindful of the potential residue problem.

We want this regulation to get to the source of the chloramphenicol residues, that is, back to the farm.

We also want to differentiate between animals in production and other animals.

Last but not least, we want to protect the consumer from chloramphenicol residues.

To achieve this we could follow a strategy whereby no animals or animal products might leave a farm when a detectable residue of chloramphenicol was present.

To attain this aim one needs the following tools:

— An agreed method of detection for chloramphenicol that is sensitive enough to detect residues that are significant for human health and that can be used on a routine basis.

— A system that prohibits the farmer from delivering products that contain chloramphenicol. The consequence of such a ban would be that milking cows and laying hens could not in general be treated with chloramphenicol.

The Dutch regulation that we envisage, tries to use the tools available to fulfill the aim that no residues significant for human health will reach the consumer. It may have the following components:

1. No milk-producing ruminant or laying hen may be present on a farm when it is possible to detect chloramphenicol residues in them.
2. No other production animal containing a detectable residue of chloramphenicol may leave a farm.

The aforementioned points include of course the chloramphenicol metabolites.

The system that we foresee involves control of residues on the farm as well as control of residues in animals leaving the farm for the production of animal products.

In this way we feel able to state yet again that the Dutch product is free from harmful residues.

Consequently one must state yet again that more people are provided a living by potential residues than are dying because of them.

*Groupe Européen d'Études des Résidus. Symposium Chloramphénicol, Fougères, France, 11 octobre 1983.*

## References

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