



Antibiotic resistance calls for long-term plan

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The **#schonekip** (clean chicken) campaign launched by the Consumentenbond (Consumers' Association) has prompted questions in parliament. The Consumentenbond demonstrated that bacteria that are resistant to antibiotics were present on the surface of nearly all the chicken on sale in supermarkets. Is it still safe to eat chicken? We asked Marcel Zwietering, professor of Food Microbiology.

Are consumers now ingesting antibiotics and harmful bacteria from chicken skin on a massive scale?

No. Antibiotics are not present in or on the meat. At least they shouldn't be – this area is governed by very strict requirements. Sufficient time must be allowed between the administering of antibiotics and slaughter so that no antibiotics are present in the meat. Bacteria are not present in the meat either, but they are on the surface. Of course chicken skin is not a smooth surface, so they will get a little deeper into the nooks and crannies, but not right into the meat. Naturally it is a different story for minced meat.

Can you wash the bacteria off the meat with water before you fry it?

Washing is not completely pointless, but it is not particularly effective either. Good hygiene and cooking the meat through properly are, however. In other words, cook the chicken properly and ensure that things that have come into contact with the raw product (or the packaging), such as knives, forks, plates, chopping boards, but also hands, do not come into contact with the cooked products or with other foods that are eaten raw.

Because if you ingest those bacteria, you can become seriously ill?

If you cook chicken through properly and treat it hygienically, the risk is negligible. Now that is easier said than done, and I do not run my kitchen like an operating theatre either (and even there, things sometimes go wrong). So there is a chance that you might ingest ESBLs. Fortunately, these will very often be quite harmless bacteria. In some cases they may be pathogenic, but not in the gut, so they will almost never cause problems.

But if you do become ill, there is no effective medicine?

There are bacteria that are resistant to antibiotics. Or to be more precise, these bacteria produce an enzyme that can break down many different antibiotics, rendering them ineffective. So if a person becomes infected by one of those bacteria and the immune system cannot cope with it, a great number of different antibiotics can no longer be used to cure it. In some cases, these bacteria can also transmit the ability to produce that enzyme to other similar bacteria, which makes the spread of resistance between bacteria possible.

So antibiotic resistance in livestock farming is not really such a big problem for public health?

Yes it is.

- 1) In very specific cases, consumers can nevertheless be affected. A patient with a different illness who becomes infected by the resistant bacteria can become harder to treat.
- 2) Antibiotic resistance is a slowly advancing problem within our society, for example in hospitals, (hospital infections), but also in all kinds of patients admitted to hospital with infections they picked up outside which are difficult to treat. In the past, we had bacteria that were resistant to three or four antibiotics; these days, eight or ten is no exception, and there are bacteria that are resistant to all antibiotics except one. If that one resistance is added, the infection in question will no longer be treatable. So there is a general problem, to which these ESBLs on chicken are also contributing, but it is not something which has just happened and is only limited to chicken meat, but something that has been happening over the last few decades and has many different sources.

Is enough being done to combat antibiotic resistance?

I think a more robust approach could be taken. A significant reduction in the use of antibiotics both for human health and in animals is essential – please note that I say a significant reduction, not stopping completely or merely a reduction!

Links

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What did you think about the Consumentenbond's campaign?

A campaign like the Consumentenbond's helps to put the problem on the map. But it does need to be taken up seriously. In other words, not just pub talk (these days that's called Twitter) with "solutions" which often have more drawbacks than they are effective, but a long-term plan to handle antibiotics in a sensible way. Of course it is not the case that eating chicken has suddenly become more dangerous just because someone has taken some random samples. This issue was extensively covered in the news six months ago, and of course it already existed before then. But action is required, across a broad front, with a long-term vision.