

During the year 2011, the Ordre des Vétérinaires (French Veterinary Council) was questioned by the Ministry for agriculture on antimicrobial resistance and the use of antibiotics in veterinary medicine.

The fight against antimicrobial resistance in veterinary medicine has then been chosen as a key priority for the French Veterinary Council, under the umbrella of One Health Concept, to contribute to the fight against antimicrobial resistance in human medicine. So, the French Veterinary Council decided to be engaged in various actions for the benefits of veterinary and human health, as both are closely linked.

Action proposed

Ecoantibio Plan

With the participation of the veterinary profession, the French Ministry of Agriculture initiated in December 2011 the Ecoantibio Plan to reduce the risk associated with the use of antibiotics in veterinary medicine. The French Veterinary Council is fully involved in the Ecoantibio Plan.

The Ecoantibio Plan set up a double reduction target :

- a quantitative target of a 25% reduction of the use of antibiotics in veterinary medicine in 5 years (2012-2016) ;

- a qualitative objective of reducing the use of critical antibiotics, that is to say, those which effectiveness should be primarily preserved for human medicine (ie fluoroquinolones and 3rd and 4th generation cephalosporins), with a target of 25% reduction of their use in 3 years (2014-2016).

The main action lever is based on the principle of prudent and rational use of antibiotics, so that only the strictly necessary quantities for treatment are used : "*The necessary, just the necessary and as much as necessary*".

This public policy calls for a comprehensive approach "One Health" consistent with the recommendations of international health organizations, and in particular the World Organisation for Animal Health (OIE).

Building bridges between human and veterinary medicine

The French Veterinary Council also initiated regular meetings between veterinarians and human doctors in French regions under the umbrella of their respective Councils. The goal is to know each other better, share best practices and work together as the fight against antimicrobial resistance can't be effective if it is conducted separately.

Within the respective plans of the Ministry for Agriculture and the Ministry for Health to reduce the use of antibiotics in veterinary medicine and human medicine, an annual symposium is organized since 2013 in Paris for all professionals involved in these plans.

Methodology

Ecoantibio Plan

To achieve the objectives of Ecoantibio Plan, 40 actions have been defined and are grouped

among five strategic axis. Emphasis was given to advocacy, communication, information and training and continuing education of veterinarians and breeders in which professional organizations of veterinarians and breeders, as well as the *Ordre des Vétérinaires* are fully involved.

The five strategic axis of Ecoantibio Plan are :

- Axis 1 - "Promoting good practice and raise awareness of the risks associated with antimicrobial resistance and the need to preserve the effectiveness of antibiotics." The continuous training of the Ecoantibio Plan are included in this axis 1 (action 1, 2, 6, 7 and 9 of the plan)
- Axis 2 - "Developing alternative to avoid the use of antibiotics"
- Axis 3 - "To strengthen regulatory rules and reduce risky practices"
- Axis 4 - "Strengthen the monitoring system of consumption of antibiotics and antibiotic resistance"
- Axis 5 - "Promoting European approaches and international initiatives".

The success of the plan is based as much on the voluntary and sustainable mobilization of all actors on the strong commitment of the authorities including the Ministry of Agriculture, at national, European and international level.

Each axis contains actions and each action is undertaken by a working group gathering representatives of professionals involved in the fight against antimicrobial resistance (veterinarians, farmers, breeders, French Administration, ...).

Hereunder are some actions where the veterinary profession and the French Veterinary Council were involved.

Axis 1 – Action n°1 « Develop and disseminate educational tools related to antimicrobial resistance and promotion of good practices to prevent the use of antibiotics for livestock farmers ».

The fight against antimicrobial resistance must reach the greatest number of users. Promoting actions on this theme uses responsive and educational tools such as good hygiene practice guides, articles in agricultural press, information leaflets distributed by health organizations and chambers of agriculture. In particular, breeding good practice guides are among the tools most important to improve the user practices.

Axis 1 - Action n°6 « Develop guides of good practices for antibiotic prescription on priority diseases ».

The existence of a multiplicity of information relating to the fair use of antibiotics, from various entities (pharmaceutical, medical, scientific societies, agencies, technical professional organizations), sometimes not harmonized, does not facilitate their inclusion in the practice of prescribers.

To provide useful support to prescribers, technical commissions of SNGTV (beekeeping commissions, aquaculture, bird, goat, rabbit, horse, sheep, pigs, milk quality, dairy cows and calves), groups studies of AFVAC dedicated to different pathological entities and AVEF study groups dedicated to different pathological entities, will disseminate guides enabling veterinarians to guide their practices so that they take into account individual objectives (effectiveness of treatment) and group objectives (preserve the effectiveness of antibiotics).

Axis 1 - Action n°7 « Strengthen training and information for veterinarians, including

“*veterinary pharmacy*” module included in the official training for the sanitary mandate ». Veterinarians practicing in animal production (cattle, sheep, goats, poultry, swine), to get the official sanitary mandate, must complete a continuing education which consist in 2 continuous training every 5 years. The training catalogue of the Ministry of agriculture includes a "Veterinary Pharmacy and Public Health" module lasting half a day. The subjects of rational antibiotic and antimicrobial resistance will be integrated in this module.

Axis 1 - Action n°9 « *Enhance information and awareness of pharmacists on the topic of antibiotic resistance in veterinary medicine* ».

Pharmacists are, in accordance with the Code of Public Health, one of the beneficiaries of the retail distribution of veterinary drugs. Pharmaceutical training is not adapted to the specificities of animal diseases and veterinary medicine. The existence of specific rules of veterinary pharmacy and in particular the obligations relating to the prescription, the pharmacovigilance, and the risks related to antimicrobial resistance, must be fully mastered when selling veterinary drugs. The greater involvement of pharmacists for retail supply of veterinary medicines is a continuation of the actions foreseen in human medicine, with the national alert level on 2011-2016 antibiotics.

This is to educate pharmacists (about 22 000 pharmacies in France) in the review of veterinary prescriptions and the way of dispensing veterinary drugs containing antibiotics. The attention of pharmacists will also be called on issues concerning the renewal orders and the prohibition of substitution of antibiotics.

Axis 1 – Action n°13 « *Promote the proper use of antibiotics among pet owners through a communication campaign* ».

Action n°13 targets pet owners who use or will use antibiotics for their animals, veterinarians, media, and canine and feline breeder clubs as opinion leaders.

The working group for action n°13 gathered French Veterinary Council (chairman of the working group), French Pharmacist Council, French Association of Veterinarians for Pets (AFVAC), Ministry of agriculture, French Equine Veterinary Association (AVEF), Syndicate of veterinary drugs manufacturers, Ministry of human health).

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Ministry for Agriculture and the Ministry for Health symposia : in a context of globalization of trade and population growth, One Health concept is at the heart of these symposia to remind that human health and animal health are inseparable.

These symposia aim to share the actions taken to preserve the effectiveness of antibiotics, with for each subject, the view of human medicine and veterinary medicine.

The first symposium held in November 2013 addressed the topic "*The concept One Health applied to antibiotic resistance : how to decrease the prescription of antibiotics in human and veterinary medicine ?*".

The second symposium held in November 2014 was entitled "*Antibiotic resistance in humans*".

and animals ".

The third symposium organized in November 2015, "*The approach applied to a single health antibiotic resistance: the time for action* " reported on the results obtained in human medicine and veterinary medicine by the plans implemented by ministries.

A fourth seminar, co-organized by the Ministry in charge of Agriculture, the Ministry for Health and the Ministry for the Environment, will be held November 17, 2016 on "*Antibiotic Resistance and Economy* ".

Results

Ecoantibio Plan

The first good results of Ecoantibio plan for reducing the exposure of animals to antibiotics and responsible use of antibiotics in veterinary medicine attest to the mobilization and commitment of the veterinarian / breeder couple. The target of 25% reduction of antibiotic use in veterinary medicine should be reached at the end of 2016.

Axis 1, action n°1 (actions done in 2014 and 2015) :

- Production and distribution of awareness tools explaining risks related to antimicrobial resistance and good practices to prevent the use of antibiotics :

- Pig farmers (around 23 000)
- Poultry farmers (around 14 000)
- Fish farmers (about 600)
- Cattle farmers (about 250 000)
- Equine breeders (about 12 000)

- Training modules on risk related to antimicrobial resistance and good practices to prevent the use of antibiotics :

- Pig farmers (around 23 000)
- Poultry farmers (around 14 000)
- Fish farmers (about 600)
- Cattle farmers (about 250 000)

A broad national campaign of communication targeting cattle farmers began in late 2015 and will run until 2017. It aims to promote vaccination as a disease prevention tool. The slogan of the campaign is "*Fed, housed, vaccinated* ".

Axis 1 - Action n°6 (actions done in 2014 and 2015) :

- Thanks to the contribution of National Society of Veterinary Technical Groups (SNGTV), a Ministerial Decree related to good practices for antibiotic prescription in veterinary medicine was published in July 22nd 2015. This Decree of 22 pages recalls the regulatory requirements for prescribing, dispensing and use of antibiotics in veterinary medicine and contains recommendations for prudent and sensible use.

- Preparation and distribution of dozens of practical sheets of specific recommendations by sector and by pathology, which aims to provide guidelines for the responsible use of antibiotics. These recommendations are based on knowledge of the uses of antibiotics and knowledge of antimicrobial resistance related to these uses, and disclaim the decision criteria for antibiotic treatment :

- When to cure (including the use of sensitivity tests or complementary examinations)
- How to treat : which antibiotics ? which strategy ?

Alternatives to antibiotic treatments are described, including biosanitary recommendations and / or vaccine alternatives when available.

And in 2016 :

- Evaluation of the efficacy of 3 antiseptic cleaning techniques of the operating area in dogs.
- Choice of antibiotic therapy in bacterial pyoderma canine deep or superficial.

Axis 1 – Action n°7 (actions undertaken in 2013, 2014 and 2015) :

- The "Pharmacy" module has been redesigned to be more practical, the new "Antibiotic resistance and pharmacovigilance" module is designed and delivers training for sanitary veterinarians. 95 sanitary veterinarians have been trained in 2015 on antibiotic resistance, and a total of 768 veterinarians have been trained between September 2013 (starting of the module) and December 2015.
- A workshop "Ecoantibio" held every year since 2013 during the national Congress of Veterinary Technical Groups (SNGTV), and the national congresses of AVEF and AFVAC.
- Articles on antibiotic resistance in veterinary professional magazines since 2013.
- Production of a training module for veterinarians working in animal production.
- Creation of a training module for breeders.
- Numerous initiatives of local and regional level to inform and train veterinarians on antibiotics and pharmacovigilance.

And in 2016:

- Design of a training module by AFVAC for small animals veterinarians.
- Cycle of conferences for equine vets, a website "Conclusion of the consensus conference", and a website for the restitution of Ecoantibio workshops.
- Design of a training module for the pig industry.
- Establishment of veterinary referees for antibiotic resistance : 2016-2017 is a pilot in 4 French regions. Referees will manage an Internet forum where all veterinary practitioner in these regions may submit questions regarding the use of antibiotics. The forum will contain position papers on antimicrobial resistance.

Axis 1 – Action n°9 (actions done in 2014 and 2015) :

- Training of pharmacists with the integration of "antibiotic" theme in the list of training available for continuing professional development for the years 2016 to 2018 (Decree of 8 December 2015).

And in 2016 :

- Production of thematic documents by the Ordre of Pharmacists (Ordre des Pharmaciens).

Axis 1, action n°13 (action done in 2014) :

From September to December 2014, the communication campaign "*Antibiotics, for us either, are not automatic* " took place towards pet owners, veterinarians, pharmacists, and media with :

- distribution of posters and leaflets in 6 000 veterinary practices and 22 000 pharmacies in France and in the 4 French veterinary schools, and also dog and cat shows. A total of 29 000 posters and 70 000 leaflets were distributed.
- awareness action towards all veterinarians and pharmacists of France (19 000 and 27 339

respectively) by the Ordre des Vétérinaires and the Ordre des Pharmaciens to ask them to relay the campaign messages to their clients (in the Ordre magazines, electronic newsletters, email).

- audio press kit (11 chronics of 90 seconds each) relayed by 124 regional and national radio stations for 85 hours of hearings and 2.3 million listeners (mainly 25-59 years).
- dissemination of the messages of the communication campaign via social networks (17 000 views on Twitter and 80 000 on Facebook).
- videos on the Ministry of agriculture website (15 000 views).
- media relations with professional press (pets, veterinarian press, agricultural press), general press and consumer magazines.
- dedicated pages on the website of the Ministry of agriculture, veterinary professional organizations.

For 2015, e-Bug project extended to animal health in elementary schools (Convention signed by Ministry of agriculture and the University Hospital of the city of Nice in France). e-Bug is a free educational resource (brochure and website = <http://www.e-bug.eu>) for students of schools and colleges and their teachers on micro organisms, transmission, prevention and treatment infections. The resource reflects both the involvement of 18 European countries and many French partners, in terms of education as of Public Health.

For 2016, the e-Bug project initiated in 2015 has spread to animal health : a chapter on "veterinary Antibiotics and antibiotic resistance" has been designed to be inserted into the educational booklet for school children to raise awareness of hygiene and proper use of medicines in as part of their education and Life Sciences of the Earth (the e-Bug project is led by the Ministry for Health and the Ministry for Education).

Teachers can use this documentation, consistent with the third class program of college students including the subject "Infectious risk and protecting the body" (about 830 000 college students targeted).



Translation : Antibiotics, for us either, are not automatic

Simple hygiene gestures enable to avoid infection and the need of antibiotic treatment

Building bridges between human and veterinary medicine

Ministry for Agriculture and the Ministry for Health symposia : these symposia have been successful each time with the participation of about 200 people (health professionals, media, agricultural organizations, ...) and significant press coverage.

The regular meetings, initiated by the French Veterinary Council, between veterinarians and human doctors in French regions under the umbrella of their respective Councils were successful with around 60 to 80 health professionals attending each meeting.

For example in Pays de la Loire region (around Nantes city), the Regional Veterinary Ordre has close relationship with Medqual. It is an association that was created in 2003 following the National human Plan to preserve the effectiveness of antibiotics. It is an information Center and a regional resource for the proper use of antibiotics.

Conclusion

Since 2012, the French Veterinary Council has coordinated various activities on antibiotics and antimicrobial resistance in partnership with French Ministry of Agriculture, the Association Française des Vétérinaires pour Animaux de Compagnie (AFVAC - French Association of Veterinarians for Pets), the Association Vétérinaire Equine Française (AVEF - French Equine Veterinary Association), and the Société Nationale des Groupements Techniques Vétérinaires (SNGTV - National Society of Veterinary Technical Groups). For example, 41 continuing education actions have been held :

- 7 meetings for veterinarians and human health professionals
- 8 trainings for veterinarians
- 3 national congresses for small animal veterinarians
- 2 national congresses for large animal veterinarians
- 3 publications of continuing education for small animal and equine veterinarians
- 5 publications of continuing education for large animal veterinarians
- 3 softwares for large animal veterinarians
- 4 national symposiums for veterinarians and human health professionals and media
- 6 national engagements being part of National Plan national Ecoantibio 2017 of the Ministry of Agriculture, for veterinarians, pharmacists, human doctors, breeders, and general public.