

Asthma and quail eggs

The active principle has been discovered

By Doctor Jean-Michel Guillery

Several articles and radio and TV broadcasts have recently alluded to the use of quail eggs for treating allergies, and particularly child asthma.

The established efficacy of this centuries-old therapy, particularly in Poland, Russia and China, has aroused the interest of doctors in France for several years now. Currently, over one hundred practitioners and allergy specialists use it. Nevertheless, hitherto, prescribing a course of treatment involving quail eggs was a totally empirical measure. The discovery and isolation of the active principle in this egg was achieved by a French biochemist, **Professor Gérard Lucotte** (CNRS Enzymology Laboratory at Gif-sur-Yvette, 91190) and probably constitutes a turning point in the treatment of allergies. Professor Lucotte agreed to grant us an exclusive interview for Impact readers, enabling us to accurately take stock of his research.

You are a world-renowned specialist in quail genetics. Why did you choose the quail to be the focus of your research for such a long time?

Geneticists are primarily interested in animals that quickly have a large number

of descendants. From this perspective, the quail is an animal that provides extremely interesting performance levels. The female has a generation time of 6 weeks and she lays a good many eggs, with a very high fertility rate (95 %). All this is outstanding for a vertebrate.

Moreover, it is an animal model that is closer to man than the fruit fly or bacteria, and development of the egg can be done in an incubator, enabling control of embryogenesis at any time.

Is the quail egg in itself particularly interesting?

Yes, for several reasons. Firstly, it is a very complete food, much richer on a volume for volume basis than a chicken's egg, particularly in terms of vitamins and mineral salts. Furthermore, the quail is one of the best protein converters in the world. Lastly, from a genetic perspective, studying protein markers leaves the animal intact and does not affect its reproduction and cross-breeding capabilities.



How did you come to orient research on the therapeutic aspect of quail eggs in relation to allergies?

I was contacted about 6 years ago by one of the doctors who first used this therapy in France. Looking up the literature on this subject, I noted that historically, quail eggs were commonly used for asthmatic children in Poland, Russia and China. This offered a really interesting working hypothesis.

I imagine that at the outset you came up against almost insurmountable difficulties: what was the guiding thread for you?

The major difficulty is that a quail egg, like any egg, is a world unto itself. It contains many biochemical substances, which explains why no research had been carried out. I based my personal approach on several observations: as asthma therapy is effective with both boiled eggs and raw eggs, the active substances therefore had to be resistant to boiling and resistant to digestive enzymes; moreover, what was involved were substances that must of necessity be different from the ones to be found in the eggs of other birds and whose action can be integrated into a consistent

framework for the known mechanisms involved in allergies.

So ultimately you managed to extract an active product?

Yes, what is involved is a family of products that are closely-related chemically. There is a whole host of scientific arguments in favour of their action and I made a very detailed chemical study of them.

How did you protect your discovery?

At the time of my initial results, four years ago, the only way of protecting a discovery concerning a natural product was to file an extraction patent, as the extraction process itself was patentable. So an initial patent was filed that described an original sequence of various extraction stages for the product. It was accepted in France and extended to include several countries, including the USA, but it is very incomplete and did not provide real protection. During a second stage, and having moreover been able to synthesise the egg's active substances, I had a new patent registered in accordance with the new legislation in force at European level.

Have experiments been carried out on your product?

Not being a medical doctor, I do not have the right to conduct human experiments. But I have conducted a very comprehensive study on human blood in vitro, or in other words on all the production cells and target cells which are involved in allergy mechanisms. A detailed animal experiment and a short-



term and medium-term toxicology study have also been carried out.

Do you know the action mode of your active principle?

Yes, subsequent to the experiments, I described several mechanisms, some of which are quite different from the ones in the medicines that exist currently. In the course of my work, I even discovered an immune tolerance mechanism that the immunologists have been seeking to identify for years.

Do you consider the current treatment involving whole eggs to be a good thing?

I don't think it is. The treatments currently being used are quite disparate. They do not take into account either problems with egg allergies, or any toxic action after storage. Moreover, few quail farms provide the essential public health guarantees. There is also some vagueness from producers concerning the strains which they present as being active and those which may not be. A medicine is therefore necessary.

What remains to be done in order to obtain it?

First of all, a toxicology study has to be completed and human experiments must be performed under clinical conditions. Then all that would be required is to develop a galenic presentation and obtain a licence.



Gérard Lucotte, a Doctor of Genetics and a Doctor of Sciences, is a Professor at the Anthropology School of Paris. He is a specialist in genetic markers and discovered the DNA variants of the Y chromosome and their use in molecular anthropology