

## PHARMACY *a long and proud history*

### WITH LOVE FROM RUSSIA

Having briefly covered the stories of the main cardiovascular medicines, we now look at cholesterol and the anti-cholesterol medicines.

The cholesterol story starts with the aristocratic Russian **Nikolai Anichkov**, born in St Petersburg in 1885 and graduating as a pathologist from the Russian Military Academy in St Petersburg in 1912.

Historically arteriosclerosis was regarded as part of the aging process, then in 1908 **Adolf Windaus** showed that arterial lesions contained six times as much free cholesterol and 20 times as much esterified cholesterol as a normal arterial wall. Then in 1910 **A.I. Ignatowski**, a clinician at the Russian Medical Academy, induced atherosclerosis in rabbits by feeding them with a mixture of eggs and milk. The rabbits had the same greyish-white plaques seen in the arteries of humans, and he believed the plaques were caused by protein in the milk and eggs.

**Nikolai Anichkov** and **S. Chalotov** (student) carried out experiments in 1913 that included feeding rabbits egg yolk only. The rabbits got atherosclerosis, proving that it was something in the egg yolk causing the problem. Examination of the plaques showed that they teemed with fatlike droplets (cholesterol), as did the rabbit livers. To confirm his thoughts Nikolai fed rabbits pure cholesterol, examined their arteries and decided that cholesterol was the core factor causing atherosclerosis.

In 1924 he admitted that 10% of the rabbits which were fed large amounts of cholesterol never showed a rise in their blood cholesterol levels, but he always remained convinced that ingested cholesterol was a core factor in atherosclerosis. The same experimental process totally failed to produce atherosclerosis in rats and dogs.

He commented that rabbits are vegetarian and rats and dogs are omnivorous, which did cause him to wonder about the relevance of the experiments in the light of the omnivorous human diet.

Nikolai also suggested that hypertension, as well as inflammatory processes affecting the inner lining of the artery wall, might accentuate the atherosclerotic process.

Almost all Nikolai's writings were in Russian, with the only reference to his discovery in a chapter in E.V. Cowdry's book ***Atherosclerosis. A survey of the problem*** published in 1933 and a second edition published in 1967, three years after Nikolai's death.

Note: I am aware that my simple research skills and limited space have not done justice to this great man who made one of the ten major breakthroughs in medical science.

Reference: ***Medicine's 10 greatest discoveries***, M.Friedman M.D. G.Friedland M.D.  
Cross checked Google.

***To be continued in the next newsletter.***

