

## Effect of Dietary Whale Fat in Serum Cholesterol Levels

*By Constantin Lygonis.*

In studying the dietary factors which influence the serum cholesterol level, several workers (*Groen et al.* 1959, *Kinsel et al.* 1952, *Arbens et al.* 1954, *Bronte-Stewart et al.* 1956) have found that the quantity of the ingested fat, is as important as the quality. Those studies showed that certain fats increase the serum cholesterol levels and certain decrease it. Most of these investigations were made in Hospitals in special units where the subjects were fed diets according to the formula of the investigator. Those diets and the manner of application, is far from natural and cannot be used for a long time; and they are not practicable to be applied in a large number of the population.

I was fortunate enough to work in a community where whale fat is consumed in the daily diet, and still constitutes the main source of fat in certain families in the villages. The diet is mainly dried meat, fish, mostly dried, potatoes and salted whale meat and whale fat (blubber). (Pilot whale or Grind).

It was therefore easy to find volunteers to consume for a period of time only whale fat, while at the same time I had to find a number of people who did not eat it.

The experiment was carried out in the small island of Sandoy in the Faroe Islands.

*Subjects and method.*

The subjects, 40 men and women, all healthy people between the ages of 45 and 65 years of age, were all volunteers. They carried on with their usual work throughout the period of the experiment, which lasted six months.

No active disease was detected by routine clinical investigation. All had normal blood counts, erythrocyte sedimentation rates, urine analysis and blood urea level. Ten persons (10) of the group, 5 males and 5 females acted as control group and were asked to withdraw the whale fat from their diet, for the time of the experiment.

The other group, consisting of 30 persons, 15 males and 15 females was asked to eat at least 150—200 gr. of whale fat (blubber from the Pilot whale) daily to cover about 40 % of their caloric intake and to avoid eating any other form of fat for the period mentioned. All were supervised regularly to ensure their adherence to the diet. Blood samples were taken after three and six months period, and analysed in duplicate for serum total cholesterol by the method of *Abell et al.* modified by *Anderson and Keys* (1956).

*Results.*

On table No. I are the number and ages of people taking part in the experiment.

*Table No. I*

Age Group	Control group		Experiment group	
	Females	Males	Females	Males
45-49	2	1	5	2
50-54	2	2	5	3
55-59	1	2	3	4
60-64			2	6

Table No. II

	Control Group				Experiment Group			
	Females		Males		Females		Males	
	mg p.c.	Range	mg p.c.	Range	mg p.c.	Range	mg p.c.	Range
Start	240	175-290	250	190-291	235	170-285	255	180-290
3 months interval	210	168-245	258	187-300	120	110-210	112	136-215
6 months final	254	172-295	264	165-278	135	115-215	130	115-220

Table No. II gives the serum total cholesterol concentration at the beginning, at three months interval, and at the end of the experiment. The differences are significant and they are consistent between the two intervals.

#### Discussion.

The aim of the investigation was to see whether a diet rich in whale fat would maintain lower levels of cholesterol in the serum. There can be no doubt that it does so. It is the intention of the author to continue the trial for longer period with more subjects, with the ultimate aim to compare the frequency of vascular and cardiac diseases in these two groups. This study has confirmed observations previously made that the serum cholesterol can be lowered and kept low by the ingestion of certain fats (*Beveridge et al.* 1956, *Malmros and Wigand* 1957).

Though it is clearly established that the whale fat can partially control the level of serum cholesterol, the beneficial effect on the development and regression of atherosclerosis remains to be proved.

## SUMMARY

It is confirmed that the ingestion of whale fat (blubber from the Pilot whale) lowers the serum cholesterol level. This effect has been maintained for six months while the persons were adding the whale fat to their diet.

## ÚRTAK

Sannað verður, at spik (av grindahvali) minskar um innihaldið av cholesteroli í sveitavatninum. Hetta var hildið uppi í 6 mánaðir, meðan fólkinu ótu spik í kosti sínum.

## REFERENCES

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