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A chicken-cholesterol versus corned beef-cholesterol absorption kinetics case report

***Corresponding Author(s): James A Cocores**
Founding Director, Culinary Medicine, Psychephysics Mediated Research Laboratories, 5219 D Wallis Road, West Palm Beach, Florida, USA.
Tel: 561-319-6443 & 561-419-5083,
Email: Drjac11@bellsouth.net

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Introduction

As of August 12, 2018, health organizations [1-3] and clinical entities [4-5] have recommended eating more chicken to reduce risk prevalence and postpone or prevent the genesis of Ischemic Heart Disease (IHD) and stroke, reasoning that chicken contains lower amounts of cholesterol than corned beef.

A review of the literature revealed no scientific based absorption, kinetics or bioavailability study that supported the notion that chicken-cholesterol translates into Low-Density Lipoprotein (LDL) plasma levels at a lower rate than corned beef-cholesterol.

The following case report was designed to prompt more extensive investigations regarding the absorption and elimination dynamics of chicken-cholesterol versus corned beef-cholesterol.

Method

Mr. M. signed a consent form to participate in this study after he had carefully read the protocol for the total cholesterol, triglycerides, very low-density lipoprotein and LDL detoxification, chicken-cholesterol challenge, and corned beef-cholesterol challenge [6]. In addition, he understood that once his LDL plasma level was reduced to approximately normal, he would begin the corned beef-cholesterol challenge by first having a fasting lipid panel drawn. Then, Mr. M. would consume 165 mg of Amadori product [7] containing or boiled, corned beef-cholesterol within an alkaline green fiber diet consisting of green shakes made of blended gandules, lima beans, kale and first-pressed olive oil, and cucumber, zucchini, celery and avocado salads. He then would return to the lab the following morning in order to have a lipid panel drawn. Also, the aforementioned procedure would be repeated consuming 210 mg of slightly melanoidin

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coated [7] or broiled, skinless boneless chicken pectoral muscle-cholesterol. Moreover, the corresponding exogenous cholesterol value would be divided by the corresponding change in LDL level, which would yield a lipoprotein index (LI) for corned beef and chicken. The lower the LI, the higher the translation rate from exogenous cholesterol to the subject's plasma LDL in mg/dL/day.

Results

Mr. M. was a 64-year-old with a history of atrial fibrillation, IHD and episodes of disorientation and motor collapse. His LDL levels ranged from 149 to 193 mg/dL (Normal Range = 0-99 mg/dL) from 08/29/2016 through 03/24/2017. Mr. M. stopped taking his statin, antihypertensive, and antithrombotic medication in the fall of 2017 because he deemed them ineffective and costly and that they were associated with worsening neurological, cardiac, and gastrointestinal side effects.

Tables

Table 1: Corned Beef-Cholesterol Challenge

DATE	CHOL 100-199 mg/dL	TG 0-149 mg/dL	HDL >39 mg/dL	VLDL 5-40 mg/dL	LDL 0-99 mg/dL	TSH 0.45-4.5 uIU/mL
06/08/2018	157	91	50	18	89	2.62
06/09/2018	166	71	53	14	99	3.76

The subject's LDL increased by 19 mg/dL/day after consuming 210 mg of chicken-cholesterol on 07/13/2018 (Table 2). Therefore, the subject's LI for chicken was 11.1 (210 mg chicken-cholesterol/19 mg/dL = delta LDL).

Table 2: Chicken-Cholesterol Challenge

DATE	CHOL 100-199 mg/dL	TG 0-149 mg/dL	HDL >39 mg/dL	VLDL 5-40 mg/dL	LDL 0-99 mg/dL	TSH 0.45-4.5 uIU/mL
07/13/2018	171	62	56	12	103	3.31
07/14/2018	196	85	57	17	122	3.38

Mr. M. assimilated, absorbed and/or translated exogenous cholesterol into corporal LDL more readily from chicken than from corned beef.

Conclusions

Chicken-cholesterol was 49% more bioavailable than corned beef-cholesterol in the subject studied. Is Mr. M. a genetic outlier or do these results translate to a larger subgroup or the populace? These somewhat counterintuitive and paradoxical results warrant further investigation in order to potentially provide better dietary advice to individuals at risk for IHD and stroke.

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Implementing the procedure set out above, Mr. M's LDL increased by 10 mg/dL/day after consuming 165 mg of corned beef-cholesterol on 06/08/2018 (Table 1). Hence, his LI for corned beef was 16.5 (165 mg corned beef-cholesterol/10 mg/dL = delta LDL).

Conclusions

Chicken-cholesterol was 49% more bioavailable than corned beef-cholesterol in the subject studied. Is Mr. M. a genetic outlier or do these results translate to a larger subgroup or the populace? These somewhat counterintuitive and paradoxical results warrant further investigation in order to potentially provide better dietary advice to individuals at risk for IHD and stroke.

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