



Hiawatha's Lipid

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From his briefcase Hiawatha
Took his paper for the meeting,
Typed in triple-spacing and in
Triplicate on foolscap paper;
Glanced upon the crowd before him,
Critical and very hostile,
Like the lions in the arena
Waiting for a Christian victim,
As the surgeons in some theatre
Wait impatiently the patient;
Saw them with their notebooks waiting,
Saw the tape-recorder ready
Gleaming in its chromium-plating
By the Ampex Corporation
And preserving all the nonsense
Spoken by the previous speakers,
As the snow upon the prairies
Uselessly records the footprints,
So preserving all the nonsense
Spoken by the previous speakers.

INTRODUCTION

Hiawatha, taking courage,
Started on the Introduction,
Giving first a brief description
Of the Proto-Keysian period
When all fats in equal measure
Raised cholesterol in serum:
Butter, sardines, walrus liver,
Margarine or safflower seed oil,
Or arachidonic acid,
Or the body-fat of quokkas,
Or adrenals of the musk-rat,
Or the milk of female reindeer—
All these fats in equal measure
Raise cholesterol in serum,
As the rain in San Francisco
Fills the ditches in the roadways
(So at least thought Hiawatha)
So these fats in equal measure
Raise cholesterol in serum.

Then the Meso-Keysian period
When it's known from work of others
Quantitative variations
Do occur when different lipids
Are included in our diets,
Plentifully in our diets:
Butter, sardines, walrus liver

Margarine or safflower seed oil,
Or arachidonic acid,
Or the body-fat of quokkas,
Or adrenals of the musk-rat,
Or the milk of female reindeer—
Do not in an equal measure
Raise cholesterol in serum;
As the smoke is wind-swept upwards
Randomly with Brownian movement
Wandering above the wigwam,
So these fats in different measure
Raise cholesterol in serum.

Then the Neo-Keysian period
When arithmetic will tell us
By an intricate equation
What cholesterol in serum
We will have when we have eaten
(And don't vomit having eaten)
Butter, sardines, walrus liver,
Margarine or safflower seed oil,
Or arachidonic acid,
Or the body-fat of quokkas,
Or adrenals of the musk-rat,
Or the milk of female reindeer;
Count the double bonds and add by
Electronic automation
On a digital computer
From the Ampex Corporation;
There's no need to estimate it—
All cholesterol in serum
Follows now the Keys equation;
As the caribou in summer
Migrate by accustomed pathways
And predictably are herded,
Dietetic computation
Of the double bonds in lipids
With a slide-rule calculation
Gives you now a neat prognosis
Whether you will die tomorrow
From a thrombus in your vessels—
Myocardial infarction
Or ischaemic heart diseases—
As a cork pushed in a bottle
Stops the wine from flowing freely
(Vin Rose of California);
Atheromatosis also
Is predicted by this method,
By this skillful Keysian method.

Others are not quite so lucky:

Larry's lowered lipid levels*
 After vegetable seed oils—
 Polyethenoic acids
 Or essential fatty acids
 From the vegetable seed oils—
 Follow a more simple pattern,
 So at least thought Hiawatha
 In unpublished observations:
 As the sun comes up in morning,
 As the sun goes down in evening,
 So the laws of lipid levels
 Are predictably determined:
 Saturated fatty acids
 Raise cholesterol in serum,
 Polyethenoic acids
 Lower serum lipid levels—
 So at least thought Hiawatha
 In unpublished observations.

METHODOLOGY

After this review of others

Hiawatha turned to methods
 (Methodology, he called it
 Making it more scientific—
 Longer words are scientific);
 Talked about silicic acid,
 Mead's silicic acid column,
 How he trapped the different lipids
 As he used to trap the beaver.
 Then he pushed them back and forwards—
 Countercurrent distribution—
 As the frightened hare or reindeer
 Runs at random back and forwards.
 Then he boiled them up with potash,
 Alcoholic potash mixture,
 Following the rules established—
 Riemenschneider's "Skillful witchcraft"
 So politely called by Mattson
 (Personal communication)—
 As the dinner in the stewpot
 Is boiled by Minnehaha,
 So he boiled them up with potash
 And the double bonds determined
 Spectrophotometrically.
 Then he used the latest method,
 Gas-chromatographic method
 Introduced by James and Martin,
 Showing peaks upon the paper
 Like the Rockies at the sunset,
 Like the mole-hills in the prairies.
 Thus he estimated lipids
 And he wondered if it mattered,
 Wondered secretly about it
 With unpublishable wond'rings.

RESULTS

Thus supplied with diverse methods

Hiawatha took some serum
 From his arm by venepuncture
 And cholesterol determined;
Why he had no clear conception
 But there's wild enthusiasm
 For cholesterol in serum;
 As the children round the camp-fire
 Dance and shout in exultation,
 So there's wild enthusiasm
 For cholesterol in serum:
 Why it rises on infusion
 Of suspended phospholipids
 (Ethanamine and choline
 Joined to phosphatidic acid
 With unsaturated acids—
 Polyethenoic acids—
 Also saturated acids,
 Sticking out from off the sugar
 Like the branches of a cactus),
 Coming out from unknown tissues—
 Red cells, liver, spleen and kidneys,
 Atheromatous aortas,
 Hepatectomized adrenals;
 Why it falls, when you have eaten
 Polyethenoic acids
 Or essential fatty acids.

Having thus established clearly

What the normal value should be,
 Hiawatha took a patient
 Who had grave thrombotic symptoms,
 Used his methods on the serum
 (Methodology he called it),
 Found a curious lipid in it—
 Ante-iso-*trans*-oleic;
 Recognized it by the usual
 Gas-chromatographic method,
 By the humps upon the paper
 Like the Rockies at the sunset,
 By the bumps upon the paper
 Like the molehills in the prairies,
 By a very curious spicule
 Like the tower of Hotel Claremont
 Coming in a new position
 Which unquestionably proved it
 Anti-iso-*trans*-oleic;
 Called it Hiawatha's UFA,
 "Hiawathianic acid";
 No one else had found this lipid
 In the serum of patient;
 Called it Hiawatha's syndrome,
 Hiawatha's lipidosis,
 But he did not know his patient
 Had been bitten by a viper—
Viperus Russellianus—
 And in Russell's viper venom
 There is but one type of UFA—
 Ante-iso-*trans*-oleic,
 Hiawathianic acid.

THERAPY

So he started quick to treat him;
 Gave him safflower oil and corn oil,
 Gave him pints and quarts of corn oil,
 Gave it by infusion, also
 Gave it by inunction, also
 Poured it down, *per os*, his pharynx,
 (As the beaver in the flood-time
 Being drowned in swirling waters
 Soon becomes a bloated carcass,)
 Every orifice was needed
 For administ'ring the doses
 Of essential fatty acids;
 But the patient still had in him
 Ante-iso-*trans*-oleic,
 Hiawathianic acid.

So he tried specific treatment;
 Gave some linoleic acid
 (Octadecadienoic),
 Gave arachidonic acid
 Named you might suppose from peanuts
 But it is not found in peanuts
 And is plentiful in spiders,
 So perhaps he spelt it wrongly—
 So "arachnidonic acid,"
 Like arachnodea mater
 Which as everyone remembers
 Is the inmost spidery mother
 Which ensheaths and wraps the cortex;

But the patient still had in him
 Ante-iso-*trans*-oleic,
 Hiawathianic acid,
 Which had come if he had known it
 From the Russell's viper venom.

SUMMARY

The moral of this story is then
 Take some care when you have eaten
 Butter, sardines, walrus liver,
 Margarine or safflower seed oil,
 Or arachidonic acid,
 Or the body-fat of quokkas,
 Or adrenals of the musk-rat,
 Or the milk of female reindeer;
 To avoid thrombosis don't get
 Bitten by a Russell's viper
 Which has but one type of UFA—
 Ante-iso-*trans*-oleic,
 Hiawathianic acid.

REFERENCE

- * L. Kinsell and Friskey, Michaels,
 Malmros, Ahrens, Hiawatha;
 1953 and after:
Archives of Internal Medicine,
 Volume 90, page 11.

