Herbal Tea as an Alternative to Statins for Dyslipidaemia: A Case Report

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Introduction

According to the authors of a 2024 StatPearls report (1), using a systemic review protocol, "the global prevalence of dyslipidemia in adults is estimated to range from 20% to 80%, depending on the definition and criteria used". The authors also noted that dyslipidaemia is generally catagorised as either Primary (caused by genetic mutations that affect the metabolism of lipids and includes familial hypercholesterolaemia) or Secondary (caused by lifestyle factors or other medical conditions that alter the levels of lipids in the blood.). The World Health Organisation has estimated that Primary Dyslipidaemia (PD) has a global prevalence in adults of 38% (37% for males and 40% for females) (2). Given that dyslipidaemia is generally asymptomatic until a cardiovascular event, it is not surprising that patient awareness of their risk is typically low – in a study aimed at quantifying this awareness, the authors found "More than 65 000 users completed the online, self-administered survey.....Only about 30% of all participants self-predicted to have abnormal cholesterol values whereas we found high cholesterol levels in about 60% of people." (3)
In a review of world-wide, country by country, guidelines for the management of dyslipidaemia, the authors determined that "Most clinical guidelines across countries recommend treatment strategies as a function of CVD risk assessment and untreated LDL-C levels for the purpose of keeping LDL-C within the specific target values. Almost all guidelines recommend LDL-C as the primary treatment target... Additionally, statins are the first-line agents in all guidelines" (4).

In a recent UK, "real-world", study assessing the success rate of dyslipidaemia (a combination of Primary Hypercholesterolaemia (PH) and mixed dyslipidaemia (MD)) and treatment, the authors found that "Estimated LDL-C reductions of 40% and 50% were achieved in 2.6% and 2.3% of patients, respectively. Most received moderate-intensity statins as monotherapy (62.4%)...A large proportion of patients with PH/MD are of high and very high CV risk, remain suboptimally treated in terms of lipid lowering, and may experience CV events with associated non-negligible clinical and economic sequelae. Despite intensive LDL-C-lowering recommendations, these do not translate in clinical practice to the wider population." (5)

Additionally, a recent meta-analysis found that the increased Type 2 Diabetes (T2D) risk associated with statin use has been "significantly underestimated" with actual rates as high as 55% (6). Other studies have found that patient adherence to statins is undermined by other adverse effects such as muscle pain and may be improved by using herbal treatments instead (7).

Individual herbal-derived polyphenols have been shown to be effective alternatives to statins in the treatment of dyslipidaemia (8, 9) and when a number of polyphenols are used together, they demonstrate a general synergistic effect (10).

In this case report a patient with dyslipidaemia chose the option of a herbal tea for 12 weeks instead of a statin to improve their cholesterol profile and the results are presented below.

Methods

The subject patient is a 33 year old, otherwise healthy, male from Nepal. His father died aged 63 from ischaemic heart disease. He also has a brother aged 32 who has elevated Total Cholesterol and LDL-C's. Genetic testing was not undertaken, so it cannot be shown conclusively that his dyslipidaemia is of the Primary type, but given his state of health and family history, it is certainly possible. The subject patient has given written approval for his medical details to be used in this case report.

The online iMedical private referral service was used to generate the blood test referrals and the lipid testing was undertaken by the commercial laboratory Australian Clinical Labs.

Upon receiving his initial lipid results on 27/5/24, he was given the option of statins or Anteaox herbal tea for 12 weeks. He chose the herbal tea.

He began drinking the herbal tea on 8/7/24 as follows:

-one tea bag steeped in 250ml boiling water for 7 minutes (this method has been shown to produce the greatest number of polyphenols (11)).

-this was repeated 3 times per day.

-no other lifestyle or dietary changes were made.

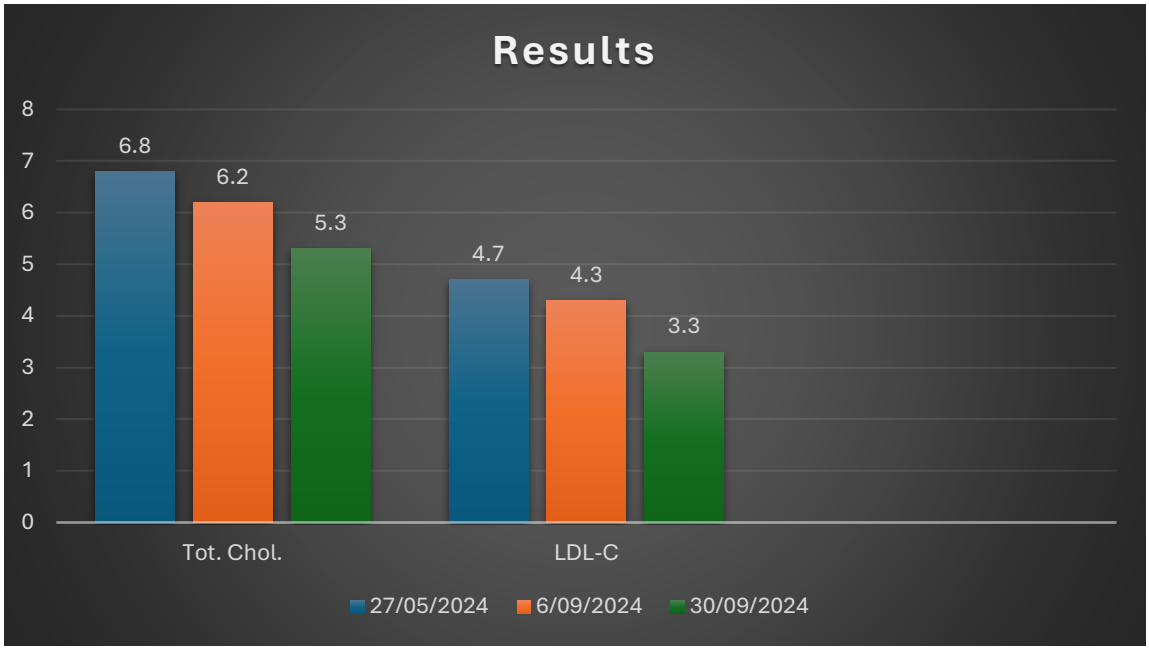
His lipid profile was tested again on 6/9/24 (approx 8 weeks) and then on 30/9/24 (12 weeks).

Copies of the Australian Clinical Labs results are in the Appendix section.

Results

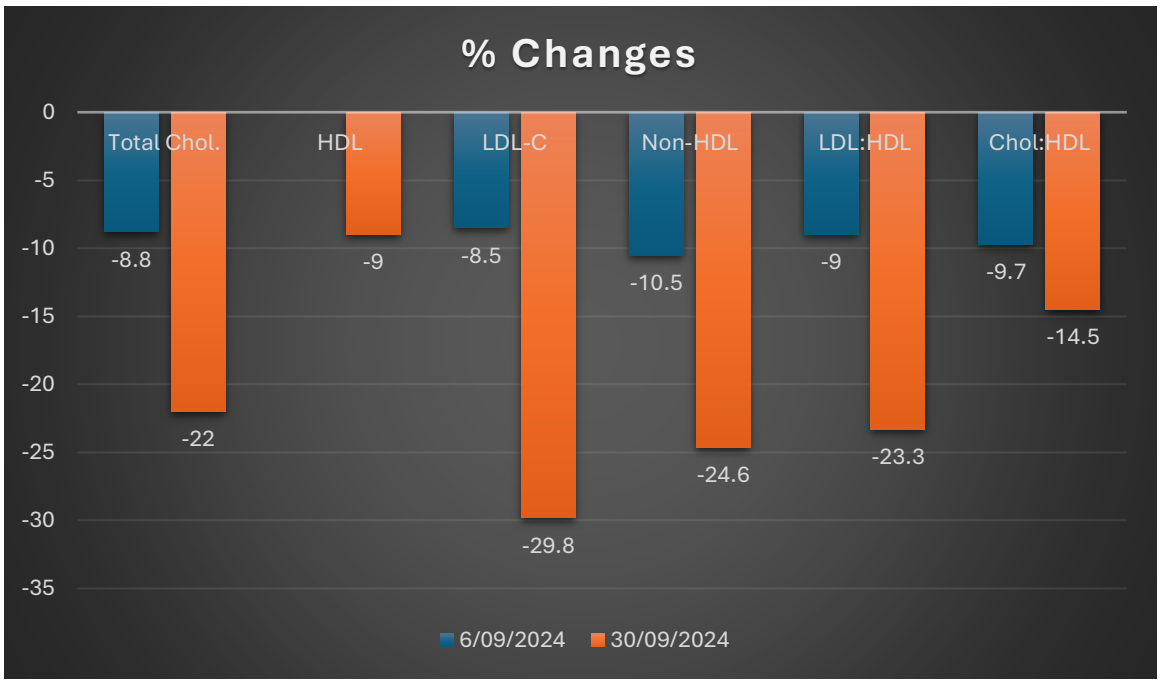
	27/5/24 (mmol/l)	6/9/24 (mmol/l)	30/9/24 (mmol/l)	Desirable* (mmol/l)
Total Cholesterol	6.8	6.2	5.3	<5.6
HDL	1.1	1.1	1.0	>0.9
LDL-C	4.7	4.3	3.3	<3.1
Non-HDL Chol.	5.7	5.1	4.3	<4.1
LDL:HDL	4.3	3.9	3.3	
Cholesterol:HDL	6.2	5.6	5.3	

*Lipid ranges and targets are from the AACB Guideline for Harmonised Lipid Reporting (2018)



Changes

	As at 6/9/24	As at 30/9/24
Total Cholesterol	down 8.82%	down 22%
HDL	unchanged	down 9%
LDL-C	down 8.5%	down 29.8%
Non-HDL Chol.	down 10.5%	down 24.6%
LDL:HDL	down 9.3%	down 23.3%
Cholesterol:HDL	down 9.7%	down 14.5%



Discussion

Statins are generally considered the initial drug of choice for patients with dyslipidaemia and in controlled clinical trials have been shown to generally reduce LDL-C by, on average, 30-50% (12). However, assuming they are tolerated by the patient, as mentioned previously, they carry the increased risk of T2D.

The statin alternative utilised in this case was a herbal tea which has been shown to provide a large number of polyphenols which the literature predicted would be effective at lowering LDL-C's (8,9). In addition to their beneficial cardiovascular effects, the polyphenols which have been shown to be produced by the herbal tea used in this case (via mass spectrometry (13)) provide protective effects in other diseases such as T2D (14), Obesity (15), Fertility (16), Liver diseases (17), Cancers (18) and Neurodegenerative diseases (19).

The changes in the reported patient's lipid profile are of clinical importance since after 12 weeks of drinking the herbal tea, it is approaching the normal range, with a reduction of LDL-C's in a similar range to what would be expected from a statin in a controlled, clinical trial setting (even without the added assistance of dietary and/or exercise improvements).

Conclusion

For patients with dyslipidaemia the overarching aim of treatment is to improve their lipid profile with particular emphasis on LDL-C levels. If this can be achieved in a real-world setting, in a timely manner, without subjecting them to increased risk of adverse events and the development of co-morbidities, as well as offering potential benefits in other diseases, then this would be a step forward in treatment options for dyslipidaemia.

The results of this case report indicate that the herbal tea option that was used as an alternative to statins warrants further investigation of its potential role in the treatment of dyslipidaemia, whether it be of the primary or secondary type.

Conflicts of Interest

The author is one of the owners of Anteaox tea.

Contact Information

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Appendix

AUSTRALIAN Clinicalabs

LABORATORY 3427-18703 UNIT 104/14 LEXINGTON DRIVE BELLA VISTA NSW 2153 PH: 1300 134 111

PATIENT: [redacted]
C/O IMEDICAL 1 UNION ST
PYRMONT NSW 2009
PH:
DOB: 16/11/1991 SEX: MALE
UR#: REF:

REQUEST DETAILS:
LAB REF: **24-86745784-LS-0**
REFERRED: 12/05/24
COLLECTED: 27/05/24 09:55
REPORTED: 27/05/24 16:15
TESTED: 27/05/24
BATCH: 0 0

IMEDICAL LIFE

IMEDICAL LIFE
1 UNION ST
PYRMONT NSW 2009

CLINICAL HISTORY:

LIPID STUDIES

SPECIMEN: Serum

Date 27/05/2024
Collection Time 09:55
Request 24-86745784

		Units	Desirable Range (Fasting)
Fasting status	Random		
Cholesterol	6.8*	mmol/L	< 5.6
H.D.L. Cholesterol	1.1	mmol/L	> 0.9
L.D.L. Cholesterol	4.7*	mmol/L	< 3.1
Non-HDL Cholesterol	5.7*	mmol/L	< 4.1
Triglyceride	2.2*	mmol/L	< 2.1
LDL/HDL Ratio (Risk Factor)	4.3		
Chol/HDL Ratio (Risk Factor)	6.2		

BIOCHEMISTRY

Comments:

Recommended targets for high risk patients are
Total cholesterol < 4.0 mmol/L
HDL Cholesterol > 1.0 mmol/L
LDL Cholesterol < 2.5 mmol/L (< 1.8 mmol/L for very high risk) Non-HDL Cholesterol < 3.3 mmol/L (< 2.5 mmol/L for very high risk) Fasting triglycerides < 2.0 mmol/L

Lipid ranges and targets are from the AACB Guideline for Harmonised Lipid Reporting (2018)
Target values need to be individualised based on clinical assessment of overall risk.
See the AusCVD Risk calculator at www.cvdcheck.org.au

AUSTRALIAN Clinicalabs

LABORATORY 3427-18703 UNIT 104/14 LEXINGTON DRIVE BELLA VISTA NSW 2153 PH: 1300 134 111

PATIENT: [redacted]
C/O IMEDICAL 1 UNION ST
PYRMONT NSW 2009
PH:
DOB: 16/11/1991 SEX: MALE
UR#: REF:

REQUEST DETAILS:
LAB REF: **24-23135134-LS-0**
REFERRED: 01/09/24
COLLECTED: 06/09/24 11:14
REPORTED: 06/09/24 17:00
TESTED: 06/09/24
BATCH: 0 0

IMEDICAL LIFE

IMEDICAL LIFE
1 UNION ST
PYRMONT NSW 2009

CLINICAL HISTORY:

LIPID STUDIES

SPECIMEN: Serum

Date 06/09/2024
Collection Time 11:14
Request 24-23135134

		Units	Desirable Range (Fasting)
Fasting status	Not Stated		
Cholesterol	6.2*	mmol/L	< 5.6
H.D.L. Cholesterol	1.1	mmol/L	> 0.9
L.D.L. Cholesterol	4.3*	mmol/L	< 3.1
Non-HDL Cholesterol	5.1*	mmol/L	< 4.1
Triglyceride	1.8	mmol/L	< 2.1
LDL/HDL Ratio (Risk Factor)	3.9		
Chol/HDL Ratio (Risk Factor)	5.6		

BIOCHEMISTRY

Comments:

Recommended targets for high risk patients are
Total cholesterol < 4.0 mmol/L
HDL Cholesterol > 1.0 mmol/L
LDL Cholesterol < 2.5 mmol/L (< 1.8 mmol/L for very high risk) Non-HDL Cholesterol < 3.3 mmol/L (< 2.5 mmol/L for very high risk) Fasting triglycerides < 2.0 mmol/L

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AUSTRALIAN Clinicalabs

LABORATORY 3427-18703 UNIT 104/14 LEXINGTON DRIVE BELLA VISTA NSW 2153 PH: 1300 134 111

PATIENT: [redacted]
C/O IMEDICAL 1 UNION ST
PYRMONT NSW 2009
PH:
DOB: 16/11/1991 SEX: MALE
UR#: REF:

REQUEST DETAILS:
LAB REF: **24-23150201-LS-0**
REFERRED: 16/09/24
COLLECTED: 30/09/24 13:40
REPORTED: 30/09/24 22:36
TESTED: 30/09/24
BATCH: 0 0

IMEDICAL LIFE

IMEDICAL LIFE
1 UNION ST
PYRMONT NSW 2009

CLINICAL HISTORY:

LIPID STUDIES

SPECIMEN: Serum

Date 30/09/2024
Collection Time 13:40
Request 24-23150201

		Units	Desirable Range (Fasting)
Fasting status	Not Stated		
Cholesterol	5.3	mmol/L	< 5.6
H.D.L. Cholesterol	1.0	mmol/L	> 0.9
L.D.L. Cholesterol	3.3*	mmol/L	< 3.1
Non-HDL Cholesterol	4.3*	mmol/L	< 4.1
Triglyceride	2.2*	mmol/L	< 2.1
LDL/HDL Ratio (Risk Factor)	3.3		
Chol/HDL Ratio (Risk Factor)	5.3		

BIOCHEMISTRY

Comments:

Recommended targets for high risk patients are
Total cholesterol < 4.0 mmol/L
HDL Cholesterol > 1.0 mmol/L
LDL Cholesterol < 2.5 mmol/L (< 1.8 mmol/L for very high risk) Non-HDL Cholesterol < 3.3 mmol/L (< 2.5 mmol/L for very high risk) Fasting triglycerides < 2.0 mmol/L

Lipid ranges and targets are from the AACB Guideline for Harmonised Lipid Reporting (2018)
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