

0058 Too Much ‘Good’ Cholesterol Can Harm the Heart

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过多的“好”胆固醇会伤害心脏

主 Anyone who has annual check-ups 检查, 核对; 体格检查, as I do, 谓 knows that /an optimal 最佳的, 最适的 cholesterol level **consists of** not one number /but two. **Low-density lipoprotein 脂蛋白 cholesterol 胆固醇 (LDL)** /should be less than 130 milligrams 毫克 per deciliter 分升 (十分之一公升) (mg/dL), ideally. **High-density lipoprotein cholesterol (HDL)** should be more than 40 mg/dL. LDL plays (v.) the villain 反面人物, 反派主角 in this story, the “bad” cholesterol /to 伴随; 随同 **HDL’s heroic role** as the “good” cholesterol.

Example 1. 标题

villain

来源于拉丁语 villa(别墅,田庄,农场)。词根词缀: villa 田庄(a略) + -ain 名词尾,人

to

while sth else is happening or being done 伴随; 随同

- He left the stage **to** prolonged applause. 他在经久不息的掌声中退下了舞台。

任何像我一样进行年度检查的人都知道，最佳胆固醇水平不是一个数字，而是两个数字。理想情况下，低密度脂蛋白胆固醇 (LDL) 应低于 130 毫克/分升 (mg/dL)。高密度脂蛋白胆固醇 (HDL) 应超过 40 mg/dL。"低密度脂蛋白"在这个故事中扮演反派角色，即“坏”胆固醇，而“高密度脂蛋白”则扮演“好”胆固醇的英雄角色。

This idea **came out of** the Framingham Heart Study, the pioneering 开拓性的；先驱性的；探索性的 research project, begun in 1948, that identified many risks for cardiovascular 心血管的 disease.

High levels of LDL increase (v.) a person's risk of heart attacks and stroke /because it **builds up** 积累，逐渐增加：逐步发展或增加某事物 in artery 动脉 walls /and can cause atherosclerosis 动脉粥样硬化；动脉硬化.

HDL at higher levels, in contrast, can lower (v.) overall cholesterol levels /by binding (v.) with LDL /and moving it to the liver 肝脏, where it is excreted (v.) 排泄 as waste. 主 A person's ratio of **one type to the other type** 谓 matters (v.).

Example 2. 标题

这个想法来自于 1948 年开始的开创性研究项目 — 弗雷明汉心脏研究，该研究确定了心血管疾病的许多风险。高水平的“低密度脂蛋白”，会增加一个人患心脏病和中风的风险，因为它会积聚在动脉壁上，并可能导致“动脉粥样硬化”。相比之下，较高水平的“高密度脂蛋白”可以通过与“低密度脂蛋白”结合并，将其转移到肝脏，并在肝脏中作为废物排出体外，从而降低总胆固醇水平。一个人的类型与另一种类型的比例，很重要。

But recent research shows that /the story of HDL is not so simple — **more** Goldilocks **than** Jekyll and Hyde 双重人格. Those studies reveal that /**too little HDL** is insufficient (a.) 不充分的；不足的；不够重要的 to lower LDL, but **too much HDL** actually heightens (v.) the risk of death. 主 The “just right” amount of HDL 谓 lies (v.) between 40 and 80 mg/dL.

Example 3. 标题

Goldilocks

童话角色. 由于金凤花姑娘喜欢不冷不热粥, 不软不硬的椅子, 总之是“刚刚好”的东西, 所以后来美国人常用金凤花姑娘 (Goldilocks) 来形容“刚刚好”。

Jekyll and Hyde

与一本小说. 书中的主角是善良的医生Jekyll, 他将自己当作实验对象, 结果却导致人格分裂, 变成夜晚会转为邪恶Hyde的双重人格. 所以 Jekyll and Hyde 就成了「双重人格」的代称。

more Goldilocks than Jekyll and Hyde

这句话的意思是, 与其说"高密度脂蛋白" (HDL) 的作用像《化身博士》中的 Jekyll和Hyde (两个相反的人格), 不如说它更像《金发姑娘》中的 Goldilocks (金发女孩)。这是一种比喻, 表达了对HDL的作用方式的描述。

在《金发姑娘》故事中, 金发女孩发现三个碗里的粥有冷有热, 三个床铺也有硬有软。她最后选择了既不太热也不太冷、既不太硬也不太软的那个。这个故事中的"just right" (恰到好处) 形象地表达了适度与平衡的概念。

因此, "more Goldilocks than Jekyll and Hyde" 这句话的意思是, HDL 的作用并不像Jekyll和Hyde那样极端、相反, 而是更像金发女孩, 需要适度的水平, 既不过少也不过多。

但最近的研究表明, HDL 的故事并不那么简单——比杰基尔和海德更像金发姑娘。这些研究表明, HDL 过少, 不足以降低 LDL, 但 HDL 过多, 实际上会增加死亡风险。“恰到好处”的 HDL 含量在 40 到 80 mg/dL 之间。

In a study of more than 400,000 people from the general population in the U.K.,
主 men with HDL levels /below 40 or above 80 /and women with levels above 100 /
系 were at greater risk of **both** mortality死亡数量; 死亡率 from all causes
起因; 原因 **and** cardiovascular 心血管的 death **in particular**.

There were similar findings /in people who already had certain risky conditions.
主 Two smaller groups of patients /后定 with **coronary artery 冠状动脉 disease** /and HDL levels above 80 /
谓 had an alarming 96 percent higher risk of dying overall /than those with lower HDL levels.

And a study of more than 11,000 people with hypertension 高血压 in Italy /found significantly higher risk of cardiovascular 心血管的 events /in those with HDL levels below 40 and above 80.

Example 4. 标题

在一项针对英国普通人群超过 400,000 人的研究中，HDL 水平低于 40，或高于 80 的男性，和水平高于 100 的女性，患全因死亡和心血管死亡的风险更大。在已经患有某些危险疾病的人群中，也有类似的发现。两组患有冠状动脉疾病，且 HDL 水平高于 80 的患者的总体死亡风险，比 HDL 水平较低的患者高出 96%，令人震惊。

一项针对意大利 11,000 多名高血压患者的研究发现，HDL 水平低于 40，和高于 80 的人，患心血管事件的风险，明显更高。

High levels of HDL 谓 have also been shown (v.) to affect bone density 骨密度. Research on more than 16,000 Australians over the age of 70 /found that those with the highest HDL levels /were at a 33 percent higher risk of suffering fractures /than those with lower levels.

Example 5. 标题

高水平的 HDL，也被证明会影响骨密度。对 16,000 多名 70 岁以上的澳大利亚人进行的研究发现，高密度脂蛋白水平最高的人，患骨折的风险，比水平较低的人高 33%。

No one knows why high levels of HDL are so harmful. “That’s the million-dollar question.” One possibility is that /at higher levels, the structure of HDL molecules 分子 changes (v.) in a way /that prevents them from **binding (v.) tightly 紧紧地，牢固地 with** circulating 循环的；流通的 cholesterol 胆固醇 /to help clear (v.) the excess 过多的量；超过的量 from the blood, Santulli says. Or it could be that /at very high levels, overall amounts of cholesterol tip (v.) (使) 倾斜，倾倒入 the danger zone.

Example 6. 标题

circulating cholesterol

"circulating cholesterol" 在这段英文中指的是血液中循环的胆固醇。所有的体细胞,都能把胆固醇进入细胞膜,胆固醇被低密度脂蛋白(LDL)经过特殊的接受器带入细胞。没有使用的胆固醇留在血液中,可能会堆积起来。

胆固醇是三种主要脂类之一, **所有动物细胞,都需要"胆固醇"来建构其"细胞膜",因此所有细胞都会制造胆固醇**,植物细胞不会制造胆固醇。胆固醇也是甾体激素及胆汁酸的前体。

因为胆固醇不溶于水,在血浆中是以蛋白质粒子"脂蛋白"的形式存在。脂蛋白会依其密度分类:极低密度脂蛋白(VLDL)、低密度脂蛋白(LDL)、中密度脂蛋白(英语:intermediate density lipoprotein)(IDL)及高密度脂蛋白(HDL)。**所有的"脂蛋白"都会携带"胆固醇"**,但"高密度脂蛋白"以外的其他脂蛋白(特别是"低密度脂蛋白")上升,和"动脉粥样硬化"及"冠状动脉疾病"风险的上升有关。相反的,较高的"高密度脂蛋白"比例,对身体有帮助。

在上述引文中,提到了高密度脂蛋白(HDL)与循环胆固醇结合,帮助清除多余的胆固醇。高水平的HDL可以与循环胆固醇结合并将其转运到肝脏进行代谢和排泄。然而,当HDL水平过高时,可能会影响HDL分子的结构,导致其无法有效地与循环的胆固醇结合,从而阻碍清除多余的胆固醇。

没有人知道为什么高水平的HDL如此有害。“这是一个价值百万美元的问题。一种可能性是,在较高水平时,HDL分子的结构会发生变化,从而阻止它们与循环中的胆固醇紧密结合,以帮助清除血液中的多余胆固醇。或者可能是在非常高的水平下,胆固醇总量,就进入了令人危险的区域。

Fortunately, very high levels of HDL /are found in less than 7 percent of the general population —one reason /the risk that they carry was missed. They are more common in women /but prove riskier in men, so /ongoing studies are investigating (v.) the possibility /that estrogen 雌性激素 is protective.

Example 7. 标题

estrogen

estro-, 发狂, 发情, 见estrus.-gen, 见generate.

幸运的是, 在不到 7% 的普通人群中发现了非常高水平的 HDL——这也是他们携带的风险被忽略的原因之一。它们在女性中更常见, 但在男性中风险更高, 因此正在进行的研究正在调查雌激素是否具有保护作用。

Unfortunately, HDL levels **are mostly out of individual control**. They rise (v.) with exercise /and with modest alcohol consumption —although heavy drinking increases (v.) total cholesterol and cardiac risk —but there appears to be little /a person can do to lower (v.) them /if they become excessive. We should, therefore, **focus on** keeping “bad” LDL levels low.

Statins 他汀类; 抑制素 have been well established 建立; 创立; 设立; 获得接受; 得到认可 as reducing (v.) cardiovascular 心血管的 risk. In addition, a healthy lifestyle is key, says Monira Hussain, a chronic disease epidemiologist 流行病学家 at Monash University in Melbourne, Australia, and a co-author of the bone fracture study. 主 High-fiber 高纤维的, low-fat diets /and increased physical activity 谓 help to lower (v.) LDL levels. Smoking is doubly harmful: it raises (v.) LDL /and lowers (v.) HDL.

Example 8. 标题

Statin

不幸的是, 高密度脂蛋白 (HDL) 水平, 大多数情况下无法由个体自行控制。通过运动和适量饮酒 (尽管过量饮酒会增加总胆固醇和心脏风险), HDL水平会上升, 但如果它们过高, 个人似乎无法做太多事情来降低它们。因此, 我们应该着重保持“不良”低密度脂蛋白 (LDL) 水平的低值。

他汀类药物已被证实可以降低心血管风险。此外, 澳大利亚墨尔本莫纳什大学慢性病流行病学家、骨折研究的合著者 Monira Hussain 说, 健康的生活方式是关键。高纤维、低脂肪饮食, 和增加体育锻炼, 有助于降低“低密度脂蛋白”水平。吸烟有双重危害: 它会增加“低密度脂蛋白”并降低“高密度脂蛋白”。

2. Too Much ‘Good’ Cholesterol Can Harm the Heart

Anyone who has annual check-ups, as I do, knows that an optimal cholesterol level consists of not one number but two. Low-density lipoprotein cholesterol (LDL) should be less than 130 milligrams per deciliter (mg/dL), ideally. High-density lipoprotein cholesterol (HDL) should be more than 40 mg/dL. LDL plays the villain in this story, the “bad” cholesterol to HDL’s heroic role as the “good” cholesterol.

This idea came out of the Framingham Heart Study, the pioneering research project, begun in 1948, that identified many risks for cardiovascular disease. High levels of LDL increase a person’s risk of heart attacks and stroke because it builds up in artery walls and can cause atherosclerosis. HDL at higher levels, in contrast, can lower overall cholesterol levels by binding with LDL and moving it to the liver, where it is excreted as waste. A person’s ratio of one type to the other type matters.

But recent research shows that the story of HDL is not so simple—more Goldilocks than Jekyll and Hyde. Those studies reveal that too little HDL is insufficient to lower LDL, but too much HDL actually heightens the risk of death. The “just right” amount of HDL lies between 40 and 80 mg/dL.

In a study of more than 400,000 people from the general population in the U.K., men with HDL levels below 40 or above 80 and women with levels above 100 were at greater risk of both mortality from all causes and cardiovascular death in particular. There were similar findings in people who already had certain risky conditions. Two smaller groups of patients with coronary artery disease and HDL levels above 80 had an alarming 96 percent higher risk of dying overall than those with lower HDL levels. And a study of more than 11,000 people with hypertension in Italy found significantly higher risk of cardiovascular events in those with HDL levels below 40 and above 80.

High levels of HDL have also been shown to affect bone density. Research on more than 16,000 Australians over the age of 70 found that those with the highest HDL levels were at a 33 percent higher risk of suffering fractures than those with lower levels.

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Fortunately, very high levels of HDL are found in less than 7 percent of the general population—one reason the risk that they carry was missed. They are more common in women but prove riskier in men, so ongoing studies are investigating the possibility that estrogen is protective.

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