

What We Still Don't Know About AIDS

In the 20 years since the first cases of AIDS were detected, scientists say they have learned more about this viral¹⁾ disease than any other.

Yet Peter Piot, who directs the United Nations AIDS program, and Stefano Vella of Rome, president of the International AIDS Society, and other experts say reviewing unanswered questions could prove useful as a measure of progress for AIDS and other diseases.

Among the important broader scientific questions that remain:

Why does AIDS predispose infected persons to certain types of cancer and infections?

A long-standing belief is that cancer cells constantly develop and are held in check by a healthy immune²⁾ system. But AIDS has challenged that belief. People with AIDS are much more prone³⁾ to certain cancers like non-Hodgkins lymphomas and Kaposi's sarcoma⁴⁾, but not to breast, colon and lung, the most common cancers in the United States. This pattern suggests that an impaired immune system, at least the type that occurs in AIDS, does not allow common cancers to develop.

What route does HIV take after it enters the body to destroy the immune system?

When HIV is transmitted sexually, the virus must cross a tissue barrier to enter the body. How that happens is still unclear. The virus might invade directly or be carried by a series of different kinds of cells.

Eventually HIV travels through lymph⁵⁾ vessels⁶⁾ to lymph nodes and the rest of the lymph system. But what is not known is how the virus proceeds to destroy the body's CD-4 cells that are needed to combat invading infectious agents.

How does HIV subvert the immune⁷⁾ system?

Although HIV kills the immune cells sent to kill the virus, there is widespread variation in the rate at which HIV infected people become ill with AIDS. So scientists ask: Can the elements of the immune system responsible for that variability be identified? If so, can they be used to stop progression to AIDS in infected individuals and possibly prevent infection in the first place?

What is the most effective anti-HIV therapy?

In theory, early treatment should offer the best chance of preserving immune function. But the new drugs do not completely eliminate HIV from the body so the medicines, which can have dangerous side effects, will have to be taken for a lifetime and perhaps changed to combat resistance. The new policy is expected to recommend that treatment be deferred until there are signs the immune system is weakening.

Is a vaccine⁸⁾ possible?

There is little question that an effective vaccine is crucial to controlling the epidemic⁹⁾. Yet only one has reached the stage of full testing, and there is wide controversy over the degree of protection it will provide. HIV strains that are transmitted in various areas of the world differ genetically. It is not known whether a vaccine derived from one type of HIV will

confer protection against other types.

In the absence of a vaccine, how can HIV be stopped?

Without more incisive¹⁰⁾, focused behavioral research, prevention messages alone will not stop the global epidemic.

□by Lawrence K. Altman

艾滋病还有哪些未解之谜

科学家说，在第一批艾滋病例被发现以后的20年里，他们对这种病毒性疾病的了解，已超过其他任何一种病毒性疾病。

但是，联合国艾滋病规划署的负责人彼得·皮奥和国际艾滋病学会会长罗马的斯特凡诺·韦拉及其他一些专家都认为，全面考察那些未决问题，可能对艾滋病和其他疾病治疗的进展是一项有益的举措。

这些较广泛的重要科学问题包括：

为什么艾滋病使患者容易感染某些癌症和传染病？

一种传统的说法是，癌细胞在人体内不断繁殖，但受到健康免疫系统的控制。艾滋病的情况却不是这样。艾滋病人很容易患非何杰金氏淋巴瘤和卡波西氏肉瘤，但不易患在美国最常见的乳腺癌、结肠癌和肺癌等。这说明，受损的免疫系统（至少是艾滋病患者的免疫系统），可以抑制普通癌细胞的发展。

艾滋病病毒侵入人体后通过什么途径摧毁免疫系统？当艾滋病病毒通过性接触传播时，病毒必须穿过组织屏障进入人体。这个过程目前尚不清楚。病毒可能直接侵入，或许由一系列不同种类的细胞带入。最终，艾滋病病毒穿过淋巴管到淋巴结和淋巴系统的其他部分。但病毒是如何摧毁人体内负责打击入侵传染体的CD-4细胞的，目前还无法确定。

艾滋病病毒是怎样破坏免疫系统的？

艾滋病病毒能杀死对付自己的免疫细胞，但艾滋病病毒携带者患艾滋病的快慢却大不相同。因此科学家提出问题：免疫系统中那些使人患艾滋病时间出现差异的因素能否被识别出来？如果能，它们能否用于制止艾滋病患者病情的恶化，甚至在最初就可能防止人们感染艾滋病病毒？

最有效的艾滋病疗法是什么？

从理论上来说，尽早治疗可以提供维护免疫功能的最佳时机。但是新药物无法彻底清除体内的艾滋病病毒，因此患者不得不终身服用这些具有危险副作用的药物，而且还可能在产生抗药性时改服别的药物。因此新的方法可能建议在免疫系统出现衰退迹象时才开始治疗。

可能研制出疫苗吗？

毫无疑问，一种有效的疫苗是控制这种瘟疫的关键。但是目前只有一种疫苗进入了全面检验的阶段，而对其会有多大的保护功能，却有着很大的争议。世界各地流行的艾滋病在遗传类型上各不相同，目前还不清楚，从某种艾滋病病毒获得的疫苗能否防止其他类型的艾滋病。

如果没有疫苗，能否阻止艾滋病病毒的传播？

如果没有深入集中的行为研究，仅靠宣传是无法阻止这种全球性瘟疫的。

NOTE 注释：

学英语，练听力，上听力课堂！

viral ['vaɪrəl] adj. 滤过性毒菌的，滤过性毒菌引起的

immune [i'mju:n] adj. 免疫的

prone to [prəʊn tu:] 倾向于

sarcoma [sɑ:'kəʊmə] n. [医]肉瘤，恶性毒瘤

lymph [limf] n. [医]淋巴腺，淋巴

vessel ['vesl] n. 脉管

subvert [səb'vɜ:t] vt. 暗中破坏

vaccine ['væksɪ:n] n. 疫苗

epidemic [epi'demɪk] n. 时疫，疫疾流行

incisive [ɪn'saɪsɪv] adj. 深入的