

Molecular Evidence along with Epidemiological Data for Transmission of HIV-1 from Cash-Paid Plasma Donors to Hemophiliacs B

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Objective: To investigate the molecular evidence in favor of the transmission of the HIV-1 from cash-paid plasma donors to HIV-1 infected hemophiliacs who have been exposed to domestic clotting factor 9 since early 1990.

Design: Twenty-two out of 23 Korean hemophiliacs with HIV-1 infection were diagnosed between 1990 and 1994. Seventeen hemophiliacs have a history of anti HIV-1 antibody free just before exposure to the domestic factor 9.

Methods: After nested or third PCR amplification of *nef* gene with peripheral blood mononuclear cells, sequences were determined by direct sequencing.

Results: Phylogenetic analysis revealed that the sequences from 20 hemophiliacs belonged to the Korean subclade B, whereas the sequences from 3 hemophiliacs clustered around foreign reference. In addition, 7 and 2 sequences most closely clustered around donors O and P without an embedding of local sequences.

Conclusions: We conclude that HIV-1 transmission to hemophiliacs occurred with high probability through domestic factor 9 contaminated with plasma obtained from at least 2 donors.

Keywords: hemophiliac B, HIV-1 transmission, *nef* sequences, plasma donor, molecular evidence

결론적으로 장기간에 걸친 홍삼복용으로 바이러스 증식이 방해를 받게되어 면역능 유지가 가능하였고 나아가 11년이 되는 시점에서 바이러스 증식에 필수적인 nef 유전자의 결손은 홍삼 장기복용에 따른 비특이적인 결과로 이해가 된다. 연구자는 “10년이면 강산도 변한다”는 속담처럼 단기적으로는 치료제에 비교하여 홍삼의 항바이러스 효과가 약하지만 10년 이상에 걸친 지속적인 고려홍삼 복용하에서 HIV-1 바이러스가 자신의 유전자를 인체내에서 정상적으로 작동, 유지할 수 있는 한계가 아닌가 생각되며 이러한 추론이 사실이라면 앞으로 이들 환자에서 nef 유전자 결손 빈도는 점점 높아지게 되고 나아가 바이러스증식 및 농도는 점차 감소할 것이다. 이러한 자료는 실용적이면서도 unique한 project 이므로 누군가가 추후 연구를 통해 밝힐 가치가 충분하다고 판단된다.

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