Bovine visna virus and the origin of HIV

Sir, Considerable credibility has been given to various suggestions over the last 4-5 years that the AIDS virus, HIV, originated in Africa, particularly from the African green monkey. At the recent Naples conference, however, Montagnier[1] acknowledged that, 'the evidence is very weak. Maybe we should look to another part of the world'.

Recently, Kanki and Essex[2] admitted that their monkey virus isolate, STLV4, and their human AIDS virus isolate, HTLV4, were both artefacts due to contamination with another monkey virus, SIV. This virus, isolated from laboratory-housed monkeys in USA, has been clearly demonstrated to be unrelated to HIV.

This acknowledgment casts considerable doubt on the African green monkey theory and an African origin for HIV.

In the view of this writer, very little attention has been given to other possible origins. It is now clear that HIV belongs to the lentiviruses and shows great genetic similarity to visna-maedi virus found in sheep[3]. In 1972, a virus similar to this sheep virus was isolated from cattle and named by Van der Maaten as bovine visna virus (BVV)[4]. Worryingly, BVV has been shown to be present in 'high proportion of batches of foetal bovine serum for cell culture' by Georgiades in 1978[5].

The seriousness of this becomes apparent when we consider that the manufacture of vaccines requires the growth of virus in cell cultures using foetal calf serum in the growth medium. The contamination of vaccines with adventitious viruses has been of concern for many years[6] and the presence of virus-like structures in 'virus-screened' bovine serum has also been reported[7]. The identification of one of these contaminants as BVV and the similarity between BVV, visna-maedi virus and HIV could render Georgiades's conclusions that: 'BVV may play a role in either malignant or slow virus disease in man . . . exposure of genetically predisoposed individuals may result in apparent or latent infections', sadly prophetic.

It seems absolutely vital that all vaccines are screened for HIV prior to use and that BVV is further investigated as to its relationship to HIV and its possible causal role in progression towards AIDS.

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References

1 Kingman S. Aids monitor, evidence for origin is weak. *New Scientist* 1987;**116**:27
2 Connor S. Laboratory mix-up solves AIDS mystery. *New Scientist* 1988;**117**:32
3 Gonda MA, Wong-Staal F, Gallo RC, Clements JE, Narayan O, Gilden RV. Sequence homology and morphologic similarities of HTLV111 and visna virus, a pathogenic lentivirus. *Science* 1985;**227**:173
4 Van der Maaten MJ, Boothe AD, Seger CL. Isolation of a virus from cattle with persistent lymphocytosis. *J Nat Cancer Inst* 1972;**49**:1649
5 Georgiades JA, Billiau A, Vanderschueren B. Infection of human cell cultures with bovine visna virus. *J Gen Virol* 1978;**38**:375
6 Nuttal PA, Luther PD, Stott EJ. Viral contamination of bovine foetal serum and cell culture. *Nature* 1977;**266**:835
7 Benz EW, Moses HL. Small virus-like particles detected in Bovine sera by electron microscopy. *J Natl Cancer Inst* 1974;**52**:1931

Which patients with arm oedema are helped by intermittent external compression therapy

Sir, The results of treatment with intermittent compression vary in the studies quoted by Dr Newman (July 1988 *JRSM*, p 377). One of the drawbacks of Dr Newman's method is the limitation of treatment to about an hour a day. The patient cannot move about. The apparatus is expensive. May I remind your readers that the reason for oedema worsening at the end of the day is the effect of gravity on the fluid content of subcutaneous fluid. It has been demonstrated that oedema fluid travels along the subcutaneous tissues in a diseased limb rather than via the venous and lymphatic systems[1].

I have prescribed the inflatable arm sleeve attached to a sphygmomanometer hand pump bulb with a normal pressure gauge. The patient is instructed to use the device as often and for as long as possible each day. The pump may be compressed by foot pressure. Since the patient is unencumbered by the intermittent pump machine, chores can be attended to. The sleeve can be quickly removed and reapplied as required. It can be worn until the last moment before social events. An alternative method utilizes the pull of gravity and costs nothing. When the patient is lying or seated at rest the affected arm is suspended vertically from the ceiling. Screw eyes attached to door and window frames allow horizontal cords to stretch across a room at optimum height. A hook attached to an old glove serves to suspend the swollen arm. Vertical suspension can be used as an adjunct to treatment with the inflated sleeve.

Many patients suffer from scar pain in the skin incision or deeper subcutaneous layers. This pain can be cured by local injection of triamcinolone acetonide[2].

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References

1 Bourne IHJ. Verification of an hypothesis concerning the path along which oedema fluid drains away from a swollen leg elevated vertically with the patient supine. In: Negus D & Jantet G, eds *Phlebology* London: John Libbey, 1985:278-81
2 Bourne IHJ. The general practitioner and the management of chronic pain. In: Burrows GD *et al.*, eds *Handbook of chronic pain management.* Amsterdam: Elsevier, 1987:193-203.

Pseudoachalasia of the cardia

Sir, Robertson *et al.* (July 1988 *JRSM*, p 399) indicate the difficulty of distinguishing between achalasia of the cardia and carcinoma of the cardio-oesophageal junction. One is often faced with a column of barium which only trickles through at a very slow rate. At this point I was taught many years ago by my old chief Dr E L Rubin to give a gas-producing Seidlitz powder. In the case of achalasia, the oesophagus will usually empty in 20-30 s due to the rise in intraluminal store of the blue and white papers. However, modern gastric radiology calls for a liberal supply of gas-producing granules which work just as well as the old Seidlitz powder. I do not claim that this test is 100% reliable but it has proved, over the last 39 years, to have been a very useful, very simple addition to technique. The double contrast effect obtainable also gives a little extra help in differentiating carcinoma from achalasia by demonstrating mucosal changes. It also usually allows the cardia end of the stomach to be filled with barium and gas, thereby enabling any neoplastic projection into the cardia to be satisfactorily visualized.

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