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Inhibition Of Human Immunodeficiency Virus Replication By Derivatives Of Stearic Acid. D Kinchington[1], W Barker[4], C Wood[2], N A Habib[3], S Galpin[1], D J Jeffries[1], K Apostolov[4] (1) Department of Virology, St Mary's Hospital Medical School, Norfolk Place, Paddington, London, W2 1PG (2) Department of Surgery, Royal Postgraduate Medical School, Du Cane Road, London, W12 0HS (3) Department of Surgery, Bristol Royal Infirmary, Bristol, BS2 8HW (4) Deltanine Research Ltd, Brunel Science Park, Brunel University, Uxbridge, Middlesex, UB8 3PQ.

The characteristic cytopathology of a productive infection with HIV in cell culture is syncytial formation. It is shown here that the appearance of syncytia is associated with a marked increase in the mono-unsaturated oleic acid content of the host cell. This effect can be inhibited by the addition of azidothymidine, interferon and saturated fatty acids, particularly dihydroxystearic acid to the infected cell cultures. A hypothesis, based on lipid membrane changes, is presented to account for cell death following HIV infection. These observations also may indicate a new approach to antiviral therapy.

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Comparison of the toxicity and anti-respiratory syncytial virus activity of papaverine and pyrazofurin. P.R. Wyde and B.E. Gilbert. Baylor College of Medicine, Houston, Texas, USA.

Papaverine (6,7-dimethoxy-1-veratrylisoquinoline) has been reported to inhibit replication of measles virus in human neural and non-neural cells and to inhibit cytomegalovirus in human skin-muscle cells. Similarly, pyrazofurin has been reported to inhibit a broad range of viruses. In these studies we compared the antiviral efficacy of papaverine and pyrazofurin against respiratory syncytial virus (RSV) and parainfluenza virus type 3 (para 3) in HEp-2 tissue culture cells, and against RSV infection in cotton rats. The toxicity of the two compounds in cotton rats and tisssue culture cells was also tested. Papaverine inhibited RSV *in vivo* and *in vitro*, but did not inhibit parainfluenza virus; the minimal inhibitory concentration (MIC) in three *in vitro* experiments ranged from 6.3 to 25 ug/ml. *In vivo*, a 20 mg/kg dose proved efficacious. However, the ratio of the toxic to inhibitory dose (T:I) for papaverine *in vitro* was <2 and the *in vivo* doses ≥ 50 mg/kg were highly toxic. In contrast, pyrazofurin inhibited RSV replication in HEp-2 cells at a mean minimal concentration of 0.02 ug/ml and had a T:I ratio of 313. Toxicity and efficacy studies of pyrazofurin in cotton rats are on-going.