speculative at present to suggest any correlation between the finding of coronaviruses in homosexuals and either HIV infection or AIDS. We intend to amplify our study and to try to determine the importance of excretion of enteric coronaviruses in this group of patients.

References


Hepatitis A: a Kupffer cell disease?

Endotoxin values in peripheral blood and the titre of antibodies to enteric bacteria can be used as indices of Kupffer cell integrity. In human hepatitis A virus infection endotoxin in the serum is found more often than in other types of viral hepatitis. The pyrogenic response induced by the endotoxin most probably explains why fever is a more common finding in human hepatitis A virus infection than in hepatitis B virus or hepatitis non-A, non-B virus infections. Moreover, the striking increase in serum IgM values, again characteristic of human hepatitis A virus infection, is not only the result of an increased production of IgM against hepatitis A virus but also reflects a non-specific increase in IgM, in part directed against enteric bacteria. Consequently, a dysfunction of the Kupffer cells in human hepatitis A virus infection has been postulated. We had the opportunity to look for morphological evidence supporting this hypothesis. We received fresh unfixed liver tissue from a patient with serologically confirmed acute hepatitis A virus infection taken three days after the onset of jaundice.

Routine histology showed portal and periportal inflammation with concomitant acinar zone 1 necrosis. Using monoclonal anti-hepatitis A virus antibodies, generously donated by Dr A MacGregor (Commonwealth Serum Laboratories, Australia), a granular immunoreactivity was observed in the macrophages bordering the inflammatory infiltrate and located in zone 1 of the parenchyma. Hepatitis A virus antigens were absent in hepatocytes. On electron microscopy, empty and full particles, as previously described in hepatitis A virus infection, were noted in secondary lysosomes of large macrophages. In spite of extensive search no such structures could be identified in the surrounding liver cells. On immunoelectron microscopy, however, hepatitis A virus antigens were shown on the membranes of the rough endoplasmatic reticulum in some hepatocytes.

In view of these findings we propose that the presence of particles like hepatitis A virus in zone 1 macrophages, resulting from either the phagocytic function of these cells or from their primary infection, causes the clearance dysfunction of Kupffer cells and hence is responsible for the clinical and biochemical findings in human hepatitis A virus infection mentioned here.

Letters to the Editor
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Accessory cells as primary target of human immunodeficiency virus HIV infection

We recently reported a high increase in the number of dendritic reticulum cells (DRC) that were positive for the monoclonal antibody KiM in lymph nodes from patients with persistent generalised lymphadenopathy (PGL). Further studies on \(12\) PGL lymph nodes showed an increase of interdigitating reticulum cells (IDRC) positive for \(S100\) protein and KiM\(^{1}\) in the T regions. Staining for a proliferation associated antigen with the antibody Ki 67 showed that most cells within the germinal centres in PGL express this antigen. Double staining with Ki 67 and Ki 4 showed that most of these cells are DRC. In the T region numerous cells were also positive for Ki 67; their distribution and morphological features indicated that they were IDRC.

Interdigitating cells showed a positive reaction in their cytoplasm, on the nuclear membrane, and within the nucleus. Characteristically, these infected cells were surrounded by a corona of lymphocytes whose cell membranes also stained for p24 (figure).

Our results indicate that HIV or concomitant viral infections, such as EBV or CMV, or a combination, can cause a proliferation of IDRC as well as DRC that have hitherto been regarded as "end cells." The detection of HIV in DRC\(^{4}\) and IDRC shows that the presence of the CD\(^{4}\) (T\(^{+}\)) antigen is not a prerequisite for an infection by the retrovirus. The characteristic arrangement of lymphocytes staining for p24—with the reaction still restricted to the cytoplasm and sometimes found only in areas in close contact with IDRC—around infected interdigitating cells indicates that accessory cells such as IDRC, DRC, and macrophages are the first target of HIV infection and may thus serve as a reservoir for the virus.

References


Figure

T region of PGL lymph node. Interdigitating cell positive for p24 on cell membrane within cytoplasm and on nuclear membrane (centre) surrounded by T4 lymphocytes (confirmed by double staining). Their positive reaction for p24 is restricted to cell membranes indicating HIV absorption. (Cryostat section, direct immunoperoxidase.) \(\times 1000\).

Diagnosis of acute myocardial infarction at necropsy

We were interested to read a report of a method for diagnosing acute myocardial damage at post mortem examination by enzyme analysis of pericardial fluid.\(^{1}\)

When death occurs within a few hours of a myocardial infarct there are often no macroscopic nor histological features to confirm the diagnosis, other than perhaps an impaired coronary arterial supply. Though techniques to show early changes have been described,\(^{2,3}\) none has proved universally acceptable, either because it is not readily available or because reproducibility is poor. A method for diagnosing acute myocardial infarction by enzyme analysis of pericardial fluid, as described\(^{1}\) is therefore very...

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Hepatitis A: a Kupffer cell disease?

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