similar is that of Galago, the only representative of the Prosimii that was tested. The numerical values of crossreactivity of the Pongidae and Cercopithecoidea α_1-antitrypsin are close to those for transferrin[9] and albumin[5]. In Ceboidea and Prosimii the values of crossreactivity for albumin are consistently greater than those for α_1-antitrypsin indicating that albumin has behaved more conservatively during evolution than other serum proteins[3,10].

Zusammenfassung. Mit der Methode der Präzipitationshemmung nach HERZENBERG et al.[6] wurde die Kreuzreaktion von Seren subhumaner Primaten mit einem Antiserum gegen menschliches α_1-Antitrypsin gemessen. Die Ergebnisse stimmen mit der geltenden Taxonomie gut überein. α_1-Antitrypsin hat sich während der Evolution offenbar weniger konservativ verhalten als Serumalbumin.

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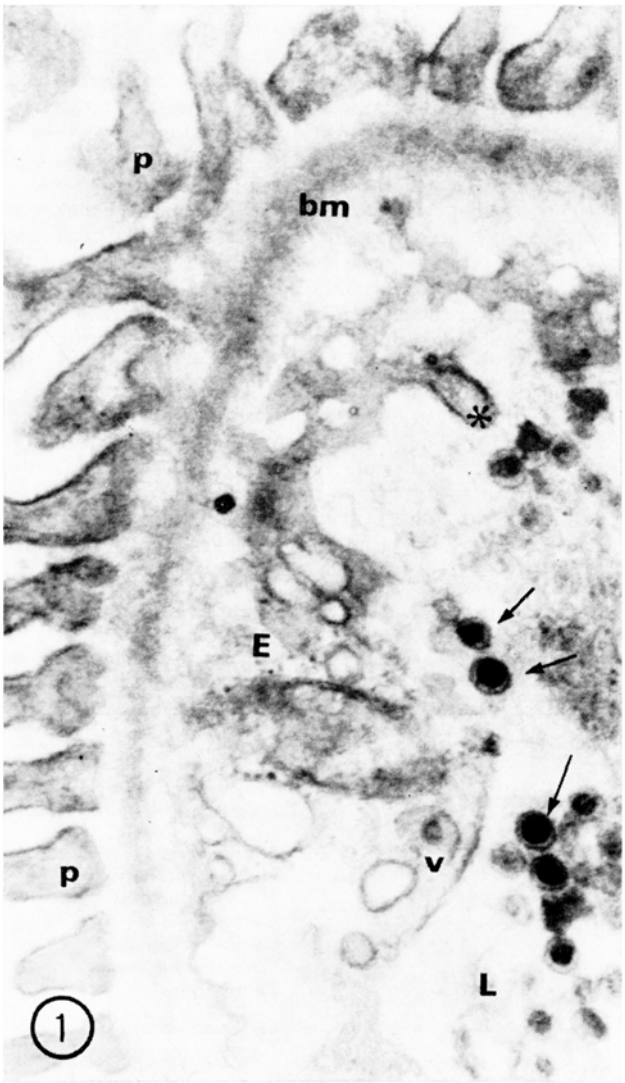
Changes in the Glomerular Endothelia Connected with Gross Virus Infection of Mice

Particles of GROSS virus are usually found both intracellularly and extracellularly in ultrathin sections of leukemic organs such as lymph nodes, spleen and thymus[1]. They have also been found in kidneys, but only in leukemic cells infiltrating this organ[2]. The aim of this paper is to present evidence that GROSS virus particles can also be found in connection with changes in the fine structure of mouse kidney endothelia without apparent presence of infiltrating leukemic cells.

In the present study, 3 mice of Charles River Swiss strain, infected with a filtrate of GROSS virus and with fully developed leukemia, were used. Pieces of kidney of experimental and control animals were immersed immediately after decapitation in cold 1.3% aqueous s-collidine buffered osmium tetroxide solution. The tissue was embedded in Epon 812. Ultrathin sections were stained with different lead salts and/or uranyl acetate.

Epithelial cells of renal tubules of all infected animals showed marked changes, consisting of a rearrangement of ultrastructural elements of mitochondria, a dilatation of endoplasmic reticulum and Golgi complex, and cytoplasmic vesiculation. Endothelial cells of the kidney glomeruli of infected animals were more irregular in form than control cells. In the cytoplasm of the endothelial cells many vesicles developed, the majority located at the luminal surface of the cytoplasm; some of them were open to the lumen of the glomerulus capillary, and inside some of the vesicles dense spherical particles were present. Particles of the same aspect but devoid of the limiting membrane were also found in the cytoplasm of the endo-



In the lumen of the capillary (L), many spherical particles apparently composed of a dense core with a single membrane are indicated by arrows. Magnification about × 60,000.

[1] L. DMOCHOWSKI, L. GROSS and F. PADGETT, Proc. Soc. exp. Biol. Med. *110*, 504 (1962).

[2] L. GROSS, in *Perspectives in Virology* (Ed. M. POLLARD; Hoeber Medic. Div., New York 1965), vol. 4, p. 226.

The endothelial cell (E) of the glomerulus of the infected mouse is separated by the basement membrane (bm) from the epithelial foot processes (p). Vacuoles containing dense particles (v) may be seen in the cytoplasm of the endothelial cell. Other dense particles, larger than ribosomes and devoid of any visible membrane, are also present in the same cell. A slender projection of the endothelial cell protruding into the lumen of the capillary is marked by an asterisk.

thelial cells; these particles were usually located in the buddings of the cytoplasm or the slender projections protruding into the lumen of the capillary. These projections were covered by the plasma membrane of high electron opacity. Although in the lumen of the capillary no leukemic infiltrates were visible in semi-serial sections, many characteristic particles of spherical shape with centrally located optically dense core were present close to the buddings described above. The majority of these particles possessed a single limiting membrane[3] and their diameter ranged from 600–1200 Å; they correspond to type C in the classification of BERNHARD and GUÉRIN[4]. Coreless vesicles, parts of membranes, and granular masses of high electron opacity were observed in the vicinity of the spherical particles. The endoplasmic reticulum of endothelial cells of infected animals showed a variable degree of dilatation; mitochondria, however, seemed to be normal in appearance.

These data suggest strongly an active participation of the glomerular endothelia in the propagation of GROSS virus. 2 possibilities must be taken into account. Changes in the fine structure of the glomerular endothelia may be connected with the phagocytosis of viral particles brought into the blood from other organs specific for virus development. In this respect the images of dense, spherical particles located in the cytoplasmic vacuoles of endothelia are very suggestive. On the other hand, the buddings and especially the long slender projections, containing dense spherical masses without a limiting membrane, present another line of evidence that viral particles could actually develop in the endothelial cytoplasm. Independent of the real mechanism of the participation of glomerular endothelia in infected mice in virus propagation, the changes existing in these cells might be implicated in the transfer of the pathogenic factor from the lumen of the capillary to the epithelial cells of renal tubules. Moreover, our data indicate that cell systems not directly involved in the leukemic changes could participate in some processes connected with virus propagation[5,6].

Riassunto. Gli autori hanno studiato al microscopio elettronico cellule dell'endotelio glomerulare di topo infettato con virus della leucemia murina (GROSS virus) e hanno dimostrata la esistenza di particelle virali all'interno di esse.

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Stimulation der Eiablage unbegatteter Weibchen des Mondspinners *Actias selene* durch ein Männchen-Pheromon

Virgine Insektenweibchen legen gewöhnlich keine oder weniger Eier als begattete Weibchen. In selteneren Fällen legen zwar auch virgine Weibchen eine normale Anzahl Eier ab, aber die Ablage erfolgt verspätet oder unregelmässig. Die Steuerung des Ovipositionsverhaltens ist bisher in mehreren Insektengruppen untersucht worden, wobei sich zeigte, dass recht verschiedene Faktoren verantwortlich gemacht werden können. Über die Verhältnisse bei Lepidopteren liegen verschiedene Arbeiten vor, doch scheinen in dieser Ordnung die Steuerungsmechanismen nicht einheitlich zu sein[1]. Neuere Versuche mit *Carpocapsa pomonella* haben zudem gezeigt, dass selbst innerhalb einer Art unterschiedliche Reaktionsnormen vorkommen, was eine genaue Analyse der Steuerungsmechanismen sehr erschweren kann[2].

Im Zusammenhang mit solchen Untersuchungen stellten wir fest, dass die Eiablagerate virginer Weibchen von *Actias selene* durch die blosse Gegenwart von Männchen im gleichen Zimmer stimuliert wird. Da die Falter in Kartonschachteln gehalten wurden, fielen optische Stimuli ausser Betracht. Wir vermuteten daher, dass die stimulierende Wirkung der Männchen auf einem olfaktorisch wahrgenommenen Pheromon beruhen könnte. Olfaktorisch wirksame Männchen-Pheromone stimulieren in virginen *Schistocerca*-Weibchen die Oogenese[3] und spielen bei der Begattung verschiedener Lepidopteren eine Rolle[4,5]. Eine ovipositionsstimulierende Wirkung solcher Pheromone ist aber unseres Wissens noch nie beschrieben worden. Obwohl es sich bei den nachfolgend beschriebenen Effekten um nur geringe zeitliche Verschiebungen handelt, finden wir sie doch theoretisch interessant.

Wie bei vielen anderen Insekten ist die Zahl der Eier je *Actias*-Weibchen stark vom Körpergewicht abhängig. Vor allem legen Weibchen, die weniger als 3 g schwer sind, unverhältnismässig wenig Eier. Wir verwendeten deshalb für unsere Versuche nur mindestens 3 g und höchstens 4,5 g schwere Weibchen. Die Raupen wurden bei 25 °C Tagestemperatur und 20 °C Nachttemperatur sowie 70% rF auf Blättern von *Rhododendron grandiflora* (in einer Zucht auch auf Blättern von *Juglans regia*) gezüchtet. Die Eiablage der Weibchen erfolgte in Kartonschachteln (etwa 40 × 30 × 30 cm), die oben mit lockerem Vorhangtüll verschlossen waren. Die abgelegten Eier wurden täglich gezählt. Sogenannte isolierte virgine Weibchen (IV) wurden spätestens 3 h nach dem Schlüpfen aus den Puppen in einen separaten Raum gebracht, in dem sich nur virgine Weibchen befanden. Dagegen wurden sogenannte nicht isolierte virgine Weibchen (NIV) im gleichen Raum gehalten wie die gepaarten, begatteten Weibchen (BW) und die Männchen.

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