



News in Brief

SARS Virus - Only Minor Disposition to Mutation

The genome of the SARS virus is changing less strongly than expected. During the first seven weeks of epidemic there were only a few mutations. This becomes evident when comparing several viruses sequenced in East Asian and North America (Lancet-online 03art4453web.pdf). The new corona virus (SARS-CoV) is ranking among the RNS viruses. These are considered as particularly active in mutation. Therefore it was expected that the genome of SARS-CoV changes quickly. Edison Liu and collaborators of the Genome Institute in Singapore sequenced the entire genome of the SARS-CoV of several patients, among them the index patient in Singapore as well as three primary and one secondary contact person. Furthermore they compared the data with the viruses sequenced in Toronto, Hong Kong, Hanoi, Guangzhou and Beijing. They documented a stability of the genome assessed as remarkable by the editorialists Earl Brown and Jason Tetro, University of Ottawa. Only “a hand full” of mutations exist which could have been emerged in virus propagation in cultures. According to conclusions of the genome researchers there exist two genotypes of SARS-CoV. One of them goes back to the first infection in the Metropol Hotel in Hong Kong. Starting from there the patients in Toronto Hanoi and Singapore got infected. The other genotype was isolated in Hong Kong, Guangzhou and Beijing.

HIV-2 older than supposed up to now

The version of AIDS Virus HIV-2, which is particularly spread over West Africa, occurred - according to newest investigations of scientists of the Belgian University Leuven - for the first time before 1940 in human beings. With reference to the study published in mid-May (NATL. PROC. ACAD. SCI. USA; 12 May, 2003) the HIV-2 versions are related to S1-viruses from mangabeys, as was now found by the scientists by means of comparing genome analyses of mongabey and human viruses. The genome of the worldwide spread HIV-1 virus is, on the other hand, similar to S1 viruses, which are found, among others,

in chimpanzees. Based on analyses of research leader, Dr. Anne-Mieke Vandamme, the analysed HIV-2a and HIV-2b subtypes spread as early as between 1955 and 1970 starting from Guinea-Bissau.

Stem Cells repair Multiple Sclerosis Defects

By injection of neurocytes in the encephalon and blood stream of mice that were suffering from a disease similar to multiple sclerosis, scientists of the San Raffale Hospital in Milan were able to remove paralyses that emerged due to the disease (NATURE 2003, 422, P. 688). For approximately 30% of 70 experimental animals, paralysis of hind legs completely disappeared after they have been implanted neurocytes cultured in the laboratory from adult stem cells. The cells diffuse in a target-oriented manner to those points where the autoimmune reaction due to multiple sclerosis had damaged the mice neurons and formed new neurons and glia based on a mechanism yet unknown.

Stem Cell Source – Deciduous Teeth

A new, very promising source for stem cells was found by US scientists of the National Institute of Dental and Craniofacial Research in fallen-out deciduous teeth (PROC. NATL. ACAD. SCI USA, 21 April). “The stem cells survive longer in culture than all adult stem cells known up to now and also divide remarkably faster, declared Dr. Songtao Shi, Director of Research. After the scientists had treated the neonatal stem cells (SHED, Stem cells from human exfoliated deciduous teeth) in culture with different growth factors, these developed into neurocytes, adipocytes and teeth precursor cells. In experimental mice the multi-potent cells excited the dentin and bone formation and expressed protein markers, which are typical for neurocytes.

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Donation of Organs - not to be connected with Financial Stimuli

The German Federal Chamber of Physicians (Bundesärztekammer) clearly declined each commercialisation of organ donation. From ethical aspects it is objectionable when healthy human beings are encouraged to donate an organ for purely financial reasons. A respective attempt in this regard by a German transplantation surgeon was condemned most strongly by the Executive Board of the German Federal Chamber of Physicians.

“Organ donation is an expression of human kindness and must not be connected with financial-stimuli. Those claiming a compensation for organ donation leave the door open for organ traffic and undermine the donation willingness of the population. For this reason we emphatically object to each attempt to commercialise the procedure of organ donation in Germany. Organ donation must not get into twilight. This would be to the detriment of the 14,000 seriously ill patients waiting urgently for a transplantation”, said Prof. Dr. Jörg-Dietrich Hoppe, President of the German Federal Chamber of Physicians.

Based on the Transplantation Law (TPG) the donation of organs from living donors could and should – in the efforts of medicine for life and quality of life of those receiving an organ - only supplement individually the procedure of donation of organs post mortem, but not replace in general. In § 8 Para 1 sentence 2 TPG, the donation of organs from living donors is therefore restricted to “relatives of the first or second degree, marital partners, fiancés or other persons closely connected obviously to the donor in a particular personal affection”.

In conformity with the transplantation law the donation of organs from living donors is also admissible only in case there is no suitable organ of a deceased available the moment the organ is retrieved. This is the reason why the one receiving the organ has to be integrated in time into the waiting list in the transplantation centre and announced as transplantable to the procurement service. The recommendations on the donation of organs from living donors by the German Federal Chamber of Physicians clearly set out that the donor has to declare its readiness for the retrieval of organs on a voluntary basis which is to be verified by an independent commission set up according to law of the land. This commission also has to exclude the suspicion of organ traffic.