

News Release

For immediate release

500 year old Korean mummies may provide clues to combat hepatitis B, says HU researcher

Jerusalem, July 23, 2007 – Mummies that have recently been unearthed in South Korea may provide clues on how to combat hepatitis B, according to Prof. Mark Spigelman of the Kuvin Center for the Study of Infectious and Tropical Diseases at the Hebrew University of Jerusalem.

This is the first time that samples of hepatitis B have ever been found on a mummified body. When the virus was discovered in the liver of a 500 year old child, researchers at Dankook University and Seoul National University invited Hebrew University Prof Spigelman to South Korea to verify the findings.

Spigelman and the Liver Unit at Hadassah University Hospital-Ein Kerem in Jerusalem are now part of an international team to conduct research on the mummies, bringing together experts from Dankook University, Seoul National University and University College London.

Spigelman known for his pioneering studies of ancient diseases (palaeoepidemiology) found on mummified bodies from Hungary to Sudan, in his quest to provide answers to the development of diseases affecting us today, such as tuberculosis, leishmania and influenza. The South Korean mummies are particularly well preserved, and could provide crucial information in the evolution of the hepatitis B virus.

An international killer

Hepatitis B causes liver problems and can lead to liver cancer or liver failure, killing approximately one million people each year.

In South Korea, the need to manage the virus is particularly significant, as twelve percent of the population are hepatitis carriers (compared with a world average of five percent). In China, the virus is one of the leading causes of cancer.

Korean mummies?

Until recently, no one even knew that mummies existed in Korea. Korea's ancient tradition of ancestor worship and the belief that at death, the soul rises up and the body has to go back to its natural components, without interference by external elements, meant that mummification was in fact anathema in Korean culture. However, with the take-over of the neo-Confucianist Joseon Dynasty in 1392, changes were made to the former Buddhist burial practices.

The burial process involved laying the body on ice for three to thirty days during mourning, placing the body inside an inner and an outer pine coffin, surrounded by the deceased's clothes, and the covering the coffin in a lime soil mixture. "In some cases, this inadvertently resulted in extremely good natural mummification," says Spigelman.

The building boom in South Korea has meant that many cemeteries have had to be relocated. It is this process which led to the discovery of the mummified bodies.

Know your enemy

The researchers intend to study the genome of the 500 year old virus to see if there have been any significant changes over this time. Spigelman asks: "Five hundred years ago, was it hepatitis B? Could it be that later on, it split from 'X' and became A and B? Was it already evolved? That's what we don't know."

"This is a 'know your enemy' expedition to see if we can get information that can help today's - and tomorrow's - sufferers," says Spigelman. He believes that knowing what a virus did 500 years ago helps us understand what it will do as it continues to evolve, and will ultimately alter the practice of public health officials in combating it.

For more information, or for press contact with students, faculty or spokespersons from HU, please speak in the first instance to Jason Caplin, Communications Manager, on +44 (0)20 7691 1471 or email jason.caplin@bfhu.org.



About the Hebrew University

With 24,000 full-time students, the Hebrew University of Jerusalem is Israel's pre-eminent institute of higher education. Its faculty members pursue projects that are both essential to Israel's future and the benefit of humanity. It is a centre of international repute, with formal and informal ties extending to and from the worldwide scientific and academic community. Students come from all over Israel and across the Middle East to study in an atmosphere of academic and research excellence.

About the British Friends of the Hebrew University

Established in 1926, The British Friends of the Hebrew University is the oldest established Jewish charity in support of higher education. The charity works to promote and enhance the reputation of the Hebrew University, ensure that underprivileged students are given the opportunity to complete their studies, and help HU to maintain its standard of excellence and worldwide reputation for research.

BFHU acts as the UK's gateway to Hebrew University research, expertise and faculty, and provides financial and pastoral support for prospective and current students at HU, as well as supporting visiting and sabbatical Hebrew University lecturers during their time in the UK.