

**Electron Microscopic Observations
on A Korean Male Mummy Formed 600 Years Ago**

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Recently a male mummy of 168.7 cm in height formed 600 years ago was found in Korea. The mummy was named as "HakBong General" mummy and is the eldest mummy found in Korea.

During the diagnostic procedures for identifying the cause of death, some tissue samples were taken for light and electron microscopy. Intrabronchial and intestinal contents were obtained by endoscopic biopsy. The hair were obtained directly from the mummy and processed for scanning electron microscopy (SEM) without light microscopic observation. Paraffin sections of skin and internal organs were processed after light microscopic observation. Samples were observed with field emission SEM (Hitachi S-4700).

The hair had a well preserved cuticles and did not show any abnormalities. Epidermis was not present except for focally elevated areas. The subepithelial space and other skin surface lacking epidermis was filled and covered with saponified crystals. Dermis was characterized by well preserved collagen fibers and saponified crystals. Structures similar to muscles and nerves were also present.

Bronchial biopsy showed the lumen filled with materials containing many pollens and structures similar to leukocytes. Illite was also present. Eggs of *C. sinensis* was found in the intestinal content and liver biopsy.

Observing tissues and materials taken from a mummy electron microscopically may be a valuable tool in not only identifying the cause of death and studying the process for mummy formation but also speculating the environment where the mummified person lived.