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CHUTIMA TIYADAECHACHAI: THE QUANTITATIVE AND QUALITATIVE STUDY OF PROTEINS IN RUBBER GLOVES. THESIS ADVISERS: VANIDA NIMMANON, Thai Dental Board (General Dentistry), HIMON ATSAWASUWAN, M.Sc. (Periodontology), RUDEE SURARIT, Ph.D.(Oral Biology) 102 p. ISBN 974-664-633-8.

The quantities and qualities of proteins in extracts from eleven glove brands of four glove types, powdered latex examination gloves, powder-free latex examination gloves, powdered latex surgical gloves, and synthetic (vinyl) gloves, were determined and compared. All glove extracts were measured for protein concentrations by Bradford's assay and molecular weights of proteins were identified by use of sodium dodecyl sulfate-polyacrylamide gel electrophoresis.

The results showed various quantities and qualities of proteins in tested gloves. The powdered latex examination gloves had the highest median of protein concentration (128.84 μg/g), followed by powdered latex surgical gloves (31.48 μg/g), powder-free latex examination gloves (9.99 μg/g), and synthetic (vinyl) gloves (2.64 μg/g) respectively. Significant differences of protein concentration were found among the glove types. ($p<0.05$) The qualitative study identified proteins at molecular weights of 11, 12, 26, 31, and 44 kd in all latex gloves. The powdered latex examination gloves contained proteins at molecular weights of 11, 26, 31, and 44 kd, while powder-free latex examination gloves and powdered latex surgical gloves contained proteins at molecular weights of 11 and 12 kd. The most common protein had a molecular weight of 11 kd.

All latex gloves in this study had proteins, which may induce allergic reactions. Therefore, individuals who are definitively diagnosed as latex protein hypersensitive should avoid using latex gloves.