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Chemical and Serological Properties of Lipopolysaccharides from *Vibrio* parahaemolyticus O-Untypeable Strains Isolated from Patients

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Chemical and serological studies have been carried out on the O-antigenic lipopolysaccharides (LPS) of six O-untypeable (OUT) strains, U-6443, W-90144, X-3972, AD-7999, 90A-6611 and KX-V212, of *Vibrio parahaemolyticus* isolated from patients. A compositional sugar analysis of their LPS revealed that out of the six OUT strains, U-6443, W-90144 and AD-7999 strains belonged to chemotype II (chemotype of O2), 90A-6611 and KX-V212 strains to chemotype III (chemotype of O3, O5, O11 and O13) and X-3972 strain to chemotype IV (chemotype of O4). A structural analysis of LPS isolated from KX-V212 revealed that the inner core region of the LPS consisted of only one mole of 2-keto-3-deoxy-D-*manno*-octonic acid, which carried a phosphate group at position C4 and the outer core at position C5. By passive hemolysis tests performed by using LPS as the antigen to sensitize sheep red blood cells, the O-serotype of the strains belonging to chemotype II was identified as O2 and that of X-3972 to O4. In contrast, LPS from two of the strains belonging to chemotype III (90A-6611 and KX-V212) did not react with any of the antisera raised against known O-serotypes. Further serological investigations revealed that the O-serotype of OUT strains 90A-6611 and KX-V212 was not involved in the known O-serotypes; rather it represented a novel serotype which has not hitherto been reported.