

Molecular characterization of *Pasteurella multocida* isolates from rabbits.

ABSTRACT

Forty isolates of *Pasteurella multocida* from healthy (17 isolates) and diseased (23 isolates) rabbits were assayed for the presence of plasmids in seeking to determine whether any correlation exists between the presence of plasmids and health status, sensitivity to antimicrobial agents, capsular and somatic type, and the anatomic site of isolation. Six isolates were found harboring plasmids. A similar ladder pattern ranging from 18 to 3 megadalton (Mda) were found in three isolates recovered from diseased rabbits. One band of molecular weight 6.6 Mda was shared by four of five (4/5) isolates from the diseased rabbits. No correlation was found between the presence of the common plasmids and serotype, resistance to antimicrobial agents, and anatomic sites from which the bacteria were cultured. Random amplification polymorphic DNA was applied to subtype all the isolates of *P. multocida*. Two single primers were tested for their abilities to generate individual fingerprints by using PCR. Primer 1 grouped the isolates into 7 profiles, and primer 2 grouped them into 15. Random amplified polymorphic DNA-polymerase chain reaction (RAPD-PCR) results show the presence of a wide heterogeneity within *P. multocida* isolates. Therefore RAPD-PCR is an efficient technique to detect the DNA polymorphism and could be used to discriminate *P. multocida* of rabbit isolates together with serologic typing.

Keyword: *Pasteurella multocida*; Plasmid; Rabbit; RAPD-PCR; Serotyping.