

Gardnerella vaginalis comprises three distinct genotypes of which only two produce sialidase

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Abstract:

OBJECTIVE: Sialidase and the presence of *Gardnerella vaginalis* have been proposed as biomarkers for bacterial vaginosis. Sialidase has been associated with adverse pregnancy outcome. We genotyped *G. vaginalis* isolates, assessed the presence and diversity of sialidase-encoding genes, and determined the production of sialidase. **STUDY DESIGN:** One hundred thirty-four *G. vaginalis* isolates were genotyped by random amplified polymorphic deoxyribonucleic acid (RAPD) and a selection of 29 isolates with amplified ribosomal deoxyribonucleic acid restriction analysis (ARDRA). A *G. vaginalis* sialidase quantitative polymerase chain reaction was developed, and the sialidase production was assessed with the filter spot test. **RESULTS:** Three *G. vaginalis* genotypes could be distinguished by both RAPD and ARDRA. Only 2 genotypes encoded and produced sialidase. **CONCLUSION:** Three genotypes exist among *G. vaginalis* isolates, and there is a clear link between genotype and sialidase production. A possible link between sialidase production and (symptomatic) bacterial vaginosis and biofilm production can be hypothesized