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Bacterial vaginosis (BV) is one of the most common gynaecological disorder affecting women in the reproductive age. Microbiological analysis of BV has shown *Gardnerella vaginalis* to be the most frequent organism in BV. However, *G. vaginalis* colonization do not always lead to BV. This raised the question whether there are pathogenic and commensal lineages within this species. In an effort to understand the differences between *G. vaginalis* strains, we performed in vitro assays to compare virulence properties of recently isolated 14 *G. vaginalis* strains from Portuguese women with and without BV. *G. vaginalis* strains were characterised for their initial adhesion ability to a monolayer of HeLa cells by incubating the bacteria with this monolayer and quantifying the adhesion by staining with DAPI and fluorescence microscopy. These assays revealed that the BV isolates of *G. vaginalis* had a stronger initial adhesion capability than non-BV isolates. The biofilm-forming capacity was then assessed by allowing each of the strains to form biofilms under anaerobic conditions for 48 hours and using different growth media. It was possible to observe that BV isolates tend to growth preferentially as biofilms while non-BV isolates had a lower intrinsic tendency towards biofilm formation. In addition, BV isolates of *G. vaginalis* displayed robust cytotoxicity in the epithelial cells after 3 hours in the contact with a monolayer of HeLa cells. Thus, this study outlines two distinct variants of *G. vaginalis*, one apparently commensal and one pathogenic, and presents evidence for disparate virulence potentials.