**Titre d’article**: Infectious bursal disease virus in Algeria: Detection of highly pathogenic reassortant viruses

**Résumé :**

Infectious bursal disease (IBD) is an immunosuppressive viral disease, present worldwide, which causes mortality and immunosuppression in young chickens. The causative agent, the Avibirnavirus IBDV, is a non-enveloped virus whose genome consists of two segments (A and B) of double-stranded RNA. Different pathotypes of IBDV exist, ranging from attenuated vaccine strains to very virulent viruses (vvIBDV). In Algeria, despite the prophylactic measures implemented, cases of IBD are still often diagnosed clinically and the current molecular epidemiology of IBDV remains unknown. The presence of the virus and especially of strains genetically close to vvIBDV was confirmed in 2000 by an unpublished OIE report. In this study, nineteen IBDV isolates were collected in Algeria between September 2014 and September 2015 during clinical outbreaks. These isolates were analyzed at the genetic, antigenic and pathogenic levels. Our results reveal a broad genetic and phenotypic diversity of pathogenic IBDV strains in Algeria, with, i) the circulation of viruses with both genome segments related to European vvIBDV, which proved as pathogenic for specific pathogen-free chickens as vvIBDV reference strain, ii) the circulation of viruses closely related - yet with a specific segment B - to European vvIBDV, their pathogenicity being lower than reference vvIBDV, iii) the detection of reassortant viruses whose segment A was related to vvIBDV whereas their segment B did not appear closely related to any reference sequence. Interestingly, the pathogenicity of these potentially reassortant strains was comparable to that of reference vvIBDV. All strains characterized in this study exhibited an antigenicity similar to the cognate reference IBDV strains. These data reveal the continuous genetic evolution of IBDV strains in Algerian poultry through reassortment and acquisition of genetic material of unidentified origin. Continuous surveillance of the situation as well as good vaccination practice associated with appropriate biosecurity measures are necessary for disease control.