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Title: Mannose-binding lectin (MBL) polymorphisms in children with post-infectious obliterant bronchiolitis (PIBO)

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Body: PIBO is a severe disorder following acute lower pulmonary infection in young children. Several agents have been associated with the disease especially adenovirus. MBL deficiency arising from polymorphisms in the coding and non-coding region on the MBL2 gene has been associated with more frequency and severity of respiratory infections. Objective: To compare frequencies of haplotypes related to MBL insufficiency between children with PIBO and healthy controls, and to evaluate characteristics and evolution of patients with PIBO according to MBL variants. Methods: 111 children with diagnosis of PIBO were studied (mean age at diagnosis 12 months, rank 1-72). Polymorphisms of MBL2 gene were evaluated. The coding A, B, D and the X promoter variants were assessed by PCR-RFLP. B and D alleles were pooled as O. The combined genotypes A/A and YA/O were grouped as MBL-sufficient (MBLs) whereas O/O and XA/O as MBL-insufficient (MBLi) groups. The control group included DNA samples from 132 healthy controls from the blood bank of the hospital. Results: MBLi was significantly more frequent in PIBO children (n 25, 22.5%) compared to the healthy group (n 17, 12.8%) [p 0.001]. PIBO patients with MBLi required intensive care unit [p 0.001] and mechanical assistance at the moment of the viral injury [p 0.001], more frequently than those with MBLs. No differences were observed related to age at diagnosis, gender or mortality. Conclusions: Polymorphisms resulting in MBLi were more common in children with PIBO than in healthy controls. PIBO patients with MBLi evidence more severe initial disease. MBLi might modify the response against viral infection in young children.