

Pediatric respirology and hereditary disorders

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Nosocomial infections in patients hospitalized with RSV

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Background: Viral testing is not always recommended in children with bronchiolitis, due to doubts on its prognostic use. We assessed how the number of RSV-testing influences on the number of nosocomial infections.

Material and methods: In analyzed period (2010-2014) 305 children (30, 57, 49, 98, 71 in 2010 to 2014, respectively) were hospitalized due to RSV infection. There were 10 cases of nosocomial infection (2010-1 case, 2011-6, 2013-2, 2014-1). RSV preventive measures did not differ between the analyzed seasons, but the number of RSV-testing varied (61, 43, 103, 130, 136 in consecutive years). Results: Spearman's correlation rank analysis showed strict reverse correlation between the number of test performed (per patient and per hospitalization day) and the number of nosocomial infections with ratio $r=-0.9747$. The risk of nosocomial infection was lower than 3.4% per patient in each year when the number of tests per RSV-positive patient was approximately 2 (2010, 2012, 2014), meaning up to 50% positive results. In those years mean risk per patient was 1.6%. Patients with nosocomial infection required longer hospital stay (12 vs 8 days, $p<0.01$), generating thus higher health system costs (1009 euro vs 673 euro, $p<0.01$). With every 100 additional tests, 2 cases of nosocomial infection may be avoided. For each 1 euro spent on RSV test 3.93 euro of hospitalization costs may be saved.

Conclusions: RSV-testing is needed in hospital setting in order to isolate/cohort patients, and prevent nosocomial RSV spread. The number of RSV-test positive results exceeding 50% may suggest to less RSV-testing. This strategy is cheaper than treating nosocomial infections and should be preferred.