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Abstract (oral session)

Clinical characteristics and laboratory admission values for differentiation between H1N1 influenza and influenza-like illnesses: a case control study

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Objectives: Reliable and rapid diagnosis of Influenza A (H1N1) is essential to initiate appropriate antiviral therapy. PCR is the gold standard to confirm H1N1 but time consuming and expensive. The currently available antigen tests are fast but display low sensitivity. Development of a clinical score for H1N1 influenza may facilitate decision making regarding antiviral therapy, improve outcome and reduce mortality. We retrospectively analyzed the differences in clinical presentation and laboratory values between patients with PCR confirmed H1N1 influenza and patients with clinical suspicion but negative PCR for influenza (=influenza like illness (ILI)). Methods: During Oct 2009 and Jan 2010 1681 patients with clinical suspicion of influenza presenting to the participating hospitals in south-east Austria. 624 patients had pos H1N1 PCR, 1057 patients had negative H1N1 PCR. Complete data sets were available from 199/624 (32%) H1N1 patients and 252/1057 (24%) ILI patients and all those patients were included in the analysis. Univariate and multivariate analysis was performed to evaluate differences in laboratory parameters or clinical signs between H1N1 and ILI. Results: According to univariate analysis patients with H1N1 were significantly younger, and presented significantly more often with rhinitis, fever, cough, wheezing, and fatigue when compared to ILI patients. Also rapid onset was significantly associated with H1N1 infection and initial heart rate was significantly higher. Concerning laboratory findings at presentation total white blood cell count (WBC), eosinophils, thrombocytes, and C-reactive protein (CRP) were significantly lower in patients with confirmed H1N1 infection, while monocytes and creatinin kinase values were significantly higher. In multivariate analysis CRP ($p=0,005$; OR 0,99; 95%CI 0,99-1,00), WBC ($p=0,002$; OR 0,89; 95%CI 0,83-0,96), eosinophils ($p=0,002$; OR 2,93; 95%CI 1,50-5,74), wheezing ($p=0,014$; OR 3,15; 95% CI 1,27-7,86) and cough ($p=0,002$; OR 2,89; 95%CI 1,45-5,37) remained significant predictors of H1N1 influenza. Conclusion: CRP, WBC, eosinophils, wheezing and cough remained significant predictors of H1N1 influenza in multivariate analysis. In contrast to previous publications we did not observe higher rates of gastrointestinal symptoms like diarrhea, nausea or vomiting. Presented data may help to implement a clinical score for H1N1 infection.