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Can Hoagland criteria or McIsaac score help minimizing the unnecessary prescription of antibiotics in children diagnosed with infectious mononucleosis?

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Patients with infectious mononucleosis (IM), caused by infection with Epstein-Barr Virus (EBV), present with common symptoms like sore throat, lymphadenopathy and fever. Another disease that presents with the same symptoms and often in the same age is acute pharyngitis caused by β -hemolytic *streptococcus pyogenes* (Group A *streptococci*, GAS). Since the clinical appearance of both diseases is so similar, patients suffering from IM are often incorrectly diagnosed with tonsillopharyngitis leading to clinical mismanagement and especially to the unnecessary use of antibiotics. Even though there are clinical scores for the diagnosis of pharyngitis caused by EBV (Hoagland criteria) or GAS (McIsaac Score) in literature, these scores have never been assessed in their ability to differentiate between the two diseases and thus prevent misdiagnosis.

As part of a study about the epidemiology and clinical presentation of IM in Germany, we found that a large proportion of the patients, later diagnosed with IM, were initially given antibiotics either by their primary care physician, or during their hospital stay or both, due to the fact that a GAS tonsillitis was suspected. This is very concerning, since antibiotic resistance is rapidly increasing.

Objective: Can the Hoagland criteria or the McIsaac score help to distinguish between IM and GAS-tonsillitis and thus help minimizing the unnecessary use of antibiotics in children?

Method: We analyzed 141 patients between 3 and 17 years who were diagnosed with IM and were admitted to the children hospital Schwabing, Munich, during the years from 2003 until 2015. Clinical, laboratory and treatment data was collected. This data was then analyzed using the Hoagland criteria and the McIsaac Score.

Results: Our study showed that neither the Hoagland criteria nor the McIsaac score could help distinguishing between IM and GAS-tonsillitis. Using the Hoagland criteria only a very small amount of patients fitted all criteria necessary for the diagnosis of IM. Applying McIsaac score most of our patients reached a score so high that the empirical use of antibiotics would have been recommended. Since neither could help differentiate between IM and tonsillopharyngitis caused by GAS, we determined different clinical and laboratory approaches that could help minimizing the unnecessary use of antibiotics and improving the clinical management of children presenting with sore throat

Biography

Sophia Strunz started studying medicine at the technical university of Munich in 2011. She has graduated in June 2018. She is currently working at her doctoral dissertation about the epidemiology, diagnosis and clinical presentation of infectious mononucleosis in Germany at the children hospital Schwabing in Munich Germany. She is part of the research Group "Infectious Mononucleosis Munich (IMMUC)" lead by Prof. Dr. Uta Behrends.

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