

“Red throat” or acute pharyngitis – challenges in real life clinical practice

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An interesting article by Oksana Boyarchuk et al. has just been published in the current issue of *Germs* – “Diagnosis and management of pharyngitis in children: a survey study in Ukraine”.¹ This study evaluated “the knowledge of pediatricians in diagnosis and management of sore throat in children” and the results showed “low knowledge about the diagnosis and determination of strategies in healthy carriers”.¹ The question we should ask when confronted with these results is whether this situation is isolated or is it common among doctors in other countries as well?

Our clinical experience in Romania has shown that “red throat” is one of the most common diagnoses provided to febrile children (with or without sore throat) and one of the main drivers of antibiotic prescription. Is “red throat” a disease? Romanian doctors often explain the diagnosis of acute pharyngitis to parents with the expression “red throat”. However, we believe that this label is too often used and does not always reflect the real diagnosis. The clinical examination of a febrile child can often reveal hyperemia of the tonsils and pharyngeal mucosa as result of general vascular changes during an inflammatory process. This is not necessarily equivalent to acute pharyngitis. The final diagnosis is a

complex puzzle built on the patient's other clinical signs and symptoms.

Establishing the clinical relevance and the etiology of “red throat” is essential for a correct therapeutic attitude. Why is that? So as to decrease unnecessary antibiotic use and its associated side effects, the most important of which include the increase in antimicrobial resistance. So far we know that viruses represent the most frequent etiology of acute pharyngitis, while only 30% of cases are bacterial in nature, *Streptococcus pyogenes* (group A streptococcus – GAS) being the leading bacterial agent involved.² However, the rate of antibiotic prescription in children with sore throat/“red throat” reaches over 60%.³ It is therefore important to confirm the etiology of GAS before antibiotic treatment is recommended in a patient with acute pharyngitis. Throat culture, although the gold standard of diagnosis, is time-consuming, therefore the use of rapid antigen detection tests (RADT) appears to be efficient in easily certifying the presence of GAS. But how do we select patients for RADT? Differential diagnosis between viral or bacterial etiology is often difficult to do on clinical grounds alone. Oropharyngeal changes highly suggestive of streptococcal infection (Figure 1) are not seen in all GAS positive cases. Therefore, it should be kept in mind that the likelihood of GAS is inversely proportional to the number of viral features (cough, coryza, rhinorrhea, ulcers/vesicles, conjunctival injection).⁴ Moreover, the modified Centor score (McIsaac)⁵ or feverPAIN score⁶ seem to be useful tools in identifying those at increased likelihood of GAS. An important point, that could change perspective, is that a significant number of children but also adults are healthy carriers of GAS,⁷ so the results of rapid streptococcal tests should always be interpreted in a clinical context. This idea is also supported by Anne-Marie Rick et al., who recently showed that “children with symptomatic pharyngitis and

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Figure 1. Acute streptococcal pharyngitis in an adolescent. A - Intense hyperemia of the pharynx, tonsils and uvula; B - Red spots on the soft palate, furry tongue.

GAS on throat culture identified as carriers were more likely to present with upper respiratory infection and atypical symptoms than children” with GAS pharyngitis.⁸

Overall, “red throat” and/or “sore throat” can pose great difficulties in diagnosis and in making therapeutic decisions: a positive RADT for *Streptococcus* does not necessarily mean bacterial pharyngitis, and a negative result does not rule out streptococcal etiology. Clinical judgement and integration of the result in the patient's context are absolutely necessary for correct management. This is essential in the patient with acute pharyngitis, to avoid development of antibiotic resistance in GAS. A growing number of reports show increasing resistance to macrolides: from 34.4% in Japan⁹ and 40% in Bulgaria¹⁰ to 93.5% in China.¹¹ There is also evidence showing resistance to quinolones¹² or even beta-lactams.¹³

A diagnosis that may seem easy to provide can be a major challenge for the clinician, especially in the current pandemic when parental attitudes toward the child with acute signs of illness have changed.¹⁴ The history and full clinical examination play an important role in guiding the therapeutic measures we take. The use of clinical scores can increase parental compliance (especially if calculated face-to-face) when deciding that a RADT is needed or when prescribing treatment.

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