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Mini Review Open Access

Group A Streptococcal Pharyngotonsillitis

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Mini Review

Group A streptococcus is the most frequently identified bacterium in children with acute pharyngotonsillitis (APT), although group B, C, F, and G have also been associated with APT. In Leao SC study higher APT incidence was observed in the female gender and tonsillar exudates was observed with group A and C predominant [1]. To assess the utility of clinical features for diagnosis of APT with GAS in pediatrics with throat cultures showed that clinical presentation should not be used to confirm APT because its performance as a diagnostic test is low. It also pointed out that coryza absence, conjunctivitisabsence, pharyngeal erythema, pharyngeal exudate, and tonsillar swelling were significantly associated with streptococcal pharyngotonsillitis. The highest clinical score, characterized by coryza absence, pharyngeal exudate, and pharyngeal erythema had a 45.6% sensitivity, a 74.5% specificity, and a likelihood ratio of 1.79 for streptococcal pharyngotonsillitis [2]. All guidelines agree that narrow-spectrum antibiotic is the first choice of antibiotic for the treatment of APT and penicillin and amoxicillin are the first choice antibiotics in the case of a child with the proven presence of GAS infection, however, the number of orally administered doses and 10 days of therapy considerably lower the compliance [3].

In opposite, the length of the treatment was the aspect found to be most deficient in lot of APT patients [4]. As mentioned above, some European guidelines only recommend antibiotic treatment in certain high-risk patients, while many other, including all American, still advise antimicrobial treatment for all children with GAS pharyngitis, given the severity and re-emerging incidence of complications. Moreover, the severity and the possibly increasing incidence of complications in school-aged children suggests that testing and treating proven GAS pharyngitis can still be beneficial [5]. Molecular analysis of GAS isolated from patients with APT showed macrolide resistance mediated by themef(A) gene and due to the high levels of macrolide resistance observed, GAS isolates from individuals with penicillin allergies need be isolated and their antimicrobial susceptibility tested, rather than automatically giving the patient a macrolide [6]. The inadequate penetration of penicillins into the tonsillar tissues and tonsillar surface fluid and microbiologic interactions between GAS and other pharyngotonsillar bacterial flora can account for their failure in eradicating GAS pharyngotonsillitis.

These interactions include the presence of beta-lactamase producing bacteria (BLPB) that shield GAS from penicillins [7]. Another current study proposed that the presence of ß-lactamase in non-typeable Hemaophilus influenza and Moraxella catarrhalis produced from outer membrane vesicles, which may contribute to the treatment failures seen in GAS pharyngotonsillitis [8]. Thus, administration of amoxicillin/clavulanate can eradicate both aerobic and anaerobic BLPB, as well as GAS and that is why we chose to use this antibiotic in the study. In this current study, we confirmed administered amoxicillin/clavulanate 40mg/kg/day for 10 days can eradicate GAS pharyngotonsillitis effectively. However, routine throat culture for GAS in children with APT is necessary since 18.2% of the patients were found to have GAS infection, and anti-streptolysin O antibody was found increased higher than 200 KIU/L in 3 cases, thus, complications might occur. The other important finding is that most of the patients did not come back to follow up even we proved GAS infection and inadequate length of treatment is the critical point of increasing the carrier rate. In the future study, multi-centers, large number of participants and long-term complications follow up should be applied.

References

1. Leao SC, Leal IO, Rocha HM, Rodrigues TM (2015) Evaluation of cytokines produced by ß-hemolytic streptococcus in acute pharyngotonsillitis. Braz J Otorhinolaryneol 81(4): 402-407.
2. Barbosa Junior AR, Oliveira CD, Fonres MJ, Laura Maria de Lima Bezário Facury Lasmar b, Paulo Augusto Moreira Camargos (2014) Diagnosis of streptococcal pharyngotonsillitis in children and adolescents: clinical picture limitations. Rev Paul Pediatr 32(4): 285-291.
3. Bottaro G, Biasci P, Lo Giudice M, Mele G (2012) 5 days cefaclor vs. 10 days amoxicillin/clavulanate in the treatment of childhood streptococcal pharyngitis. Data from a randomized clinical trial. Minerva Pediatr 64(3): 341-346.

4. Duran Fernandez Feijoo C, Marques Ercilla S, Hernandez Bou S (2010) Antibiotic prescribing in a pediatric emergency department. An Pediatr (Barc) 73(3): 115-120.
5. Van Brusselen D, Vlieghe E, Schelstraete P, De Meulder F, Vandeputte C, et al. (2014) Streptococcal pharyngitis in children: to treat or not to treat? Eur J Pediatr 173(10): 1275-1283.
6. Wajima T, Chiba N, Morozumi M, Shouji M, Sunaoshi K, et al. (2014) Prevalence of macrolide resistance among group A streptococci isolated from pharyngotonsillitis. Microb Drug Resist 20(5): 431-435.
7. Brook I (2013) Penicillin failure in the treatment of streptococcal pharyngotonsillitis. Curr Infect Dis Rep 15(3): 232-235.
8. Schaar V, Uddback I, Nordstrom T, Riesbeck K (2014) Group A streptococci are protected from amoxicillin-mediated killing by vesicles containing ß-lactamase derived from Hemophilusinfluenza. J Antimicrob Chemother 69(1): 117-120.

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