Introduction

Discrimination between pharyngitis due to group A streptococcus (GAS) and non streptococcal pharyngitis (usually of viral causes) cannot be made in a reliable way by the clinical signs and symptoms, even if clinical scores are used. The free availability to practitioners of GAS rapid diagnostic tests, sensitive (> 90 %) and specific (> 95 %), changes the rule by simplifying it, pharyngitis with positive test must be treated with antibiotics; those with negative test should not receive such treatment. A reduction of two thirds of antibiotics consumption for pharyngitis can be expected, while maintaining the benefit (improvement of the clinical signs, reduction of contagiousness and the complications) for the patients for whom it is necessary **(Cohen, 2007).**

Antibiotics have undoubtedly been highly effective in fighting bacterial infections **(Amyes, 2000).** However, their value has been seriously threatened by the rapid emergence of multidrug-resistant bacteria **(Wise et al., 1998 ; Tenover and Hughes 1996)** and this has been compounded by the lack of any new antibiotic structure since 1961 **(Amyes, 2000).** The threat to the use of antibiotics has been thoroughly examined by the authorities on both sides of the Atlantic. Inappropriate use of antibiotics (about 50% in the developed word) has been cited as a major cause of bacterial resistance **(House of Lords Select Committee on Science and Technology 1998).** Correlation between the use of antibiotics and bacterial resistance has been documented in both inpatient **(McGowan, 1983)** and outpatient settings **(Reichler et al., 1992),** and more importantly, measures to reduce their use have lead to a reduction in bacterial resistance rates **(Goossens et al., 2005 and Mayor, 2005).**

In children, upper respiratory tract infections (URTIs) are very common, and although the majority is viral in origin, antibiotics are frequently prescribed. Consequently, antibiotic use rates are highest for children, and approximately 75 % of outpatient antibiotics have been provided for some form of URTI **(Scott et al., 1998)**. Bacterial causes account for the minority of cases, where group A b-hemolytic streptococci (GAS) are the most common, affecting mainly school-aged children. **(Pichichero, 1998 and Martin et al., 2005).**

Although children infected with GAS will recover without antibiotics, treatment is often recommended in order to prevent complications such as acute rheumatic fever, nephritis, and suppurative complications, and to hasten recovery and prevent transmission to close contacts **(Shulman, 2003).**

Research confirms that antibiotics are not needed in the majority of children with URTIs, including those under two years of age with acute otitis media **(Fahey et al., 1998; Froom et al., 1997 and Damoiseaux et al., 2000).**

At the national level, campaigns based on educating doctors and the public and applying evidence-based guidelines have been very effective in reducing antibiotic use. In the Netherlands, which adopted a 'no initial antibiotics' policy (**Appelman et al., 1990)** and the UK, where a 'delayed prescribing' policy has been practiced, a dramatic reduction in antibiotic use has been achieved **(Sharland et al., 2005).**

At the personal practice level, because viral and bacterial URTIs are clinically indistinguishable **(Rondini et al., 2001 and Lin et al., 2003)** and throat swab culture results take 48 hours, efforts have been concentrated on developing quick tests to detect GAS infections. The ideal test should be quick, simple, and accurate. Furthermore, adequate

sensitivity is critical to ensure that such a test is cost-effective in the management of children with GAS infection **(Webb, 1998 and Ehrlich et al., 2002).**

Previously tried rapid streptococcal antigen tests have suffered the major limitation of low sensitivity (ranging from 65.6 % to 87.6 %) requiring a back-up culture for those with a negative test result **(Van Limbergen et al., 2006 and McIsaac et al., 2004).**