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Editorials

Rapid Office Methods for the Diagnosis of Streptococcal Tonsillitis —Reliability and Impact on Patient Management

Streptococcal tonsillitis cannot be reliably diagnosed by clinical assessment; a throat swab must be examined. Two papers in this issue of the Journal deal with widely different, but equally important aspects of this topic: rapid non-culture identification of group A streptococci (GAS) from throat swabs (Hjortdahl et al.), and the potential impact of the office throat culture facility on the overall management of patients with sore throat (Mäkelä).

The number of patients with sore throat who consult general practitioners (GPs) is high. There is, therefore, an enormous potential market for rapid diagnostic test devices to be used in this situation. During the last three to four years an increasing number of 10–15-minute antigen detection test (ADT) kits for the diagnosis of GAS antigen directly from throat swabs have emerged (1). At least six such ADT kits have been introduced in Scandinavia (2).

When evaluated at microbiological laboratories, such kits generally appear to be very sensitive (≥90%) as well as specific (≥98%), without major differences between individual kits (3). But, do these kits perform equally well in primary care, especially in terms of sensitivity? According to American studies in pediatric practice this may (4) or may not (5, 6) be the case. Hjortdahl et al. found a sensitivity of 96% and a specificity of 91% as regards GAS. This sensitivity value is much higher than corresponding values (73–78%) found in two recent Scandinavian general practice studies of three ADT kits, including the one studied by Hjortdahl et al.; the specificities were 90–98% (7, 8).

Unlike other brands, the one used by Hjordahl et al. enables the detection of not only GAS, but also group C streptococci. This is hardly an advantage. Under usual conditions, GAS may be regarded as the only significant bacterial pathogen in acute tonsillitis. Although other groups of streptococci, such as group C, have occasionally been isolated in localized outbreaks of pharyngitis (9), they need not be searched for in endemic pharyngo-tonsillitis.

Mäkelä reports on some very essential problems: Does the fact that it is now possible to perform office throat cultures significantly improve the antibiotic prescribing pattern? Are appropriate consequences taken when the culture results become available? Certain results of this interesting study are somewhat disappointing. Admittedly, the percentage of patients who had a throat culture performed increased after the introduction of the slide culture facility—but only to 70%, compared to 55% in the "base group" period, during which the throat swabs were sent to a microbiological laboratory for culture (Mäkelä, Table III). In the absence of well-defined criteria for a selective use of throat cultures, 70% must be regarded as a relatively low figure. Mäkelä also found that the percentages of antibiotic prescriptions which were issued *after* the individual cultures were read were not significantly different; in both groups, more than 80% of all treated patients received their prescription either without having a culture done, or before the culture result was available.

In the latter case, the culture results should have had consequences for a majority of the patients, because only approximately 20% of the cultures were positive (Mäkelä, Table IV). Nevertheless, the antibiotic treatment was discontinued for fewer than 5% of the patients. Surely, this can be improved upon; 40–60% of American primary care physicians discontinue antibiotic treatment in case of a negative throat culture (10, 11). Yet, one should not settle for a discontinuation rate of only 60%.

Why are antibiotics seldom discontinued? Mäkelä hints that lack of trust in "even negative culture results conflicting with clinical symptoms" and "anxiety about increasing workload" could be part of the explanation. As to the former, quality control (12) and supportive cooperation with local microbiological laboratories might be helpful in increasing both the accuracy and the trust with which office cultures are interpreted. A third reason may, possibly, be that GPs are reluctant to inform a patient that the economic expenditure of the antibiotic tablets was actually unnecessary. Some GPs dispense antibiotics (free of charge) for the first

18–24 hours, letting the culture result determine the following morning whether or not to prescribe a full course of antibiotics.

The potential benefit of the ADT method for diagnosis of GAS tonsillitis in primary care has not, as yet, been adequately determined, one of the reasons being that conflicting results have been found as regards the sensitivity of this method when used outside specialized microbiological laboratories (Hjortdahl et al., 4–8). Further studies, including assessments of the need for staff training (8), are warranted, and then, to quote Mäkelä: "... these methods need to be evaluated according to their impact on treatment decisions ...".

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Should Rapid Diagnostic Methods for the Detection of Viruses in Acute Respiratory Diseases Be Employed by General Practitioners?

In diagnostic virology, results of so-called rapid diagnostic tests should be available to the clinician within 24 hours after the test samples have been obtained from the patients. Among the following rapid diagnostic tests: electron microscopy (EM), fluorescent antibody (FA)-staining, immunoenzymatic methods (ELISA) and radioimmunoassay (RIA), FA- as well as ELISA- and RIA-methods have been employed for the detection of respiratory viruses.

Rapid diagnostic methods for the detection of viral antigens directly in samples of respiratory secretions have been developed with respect to the following respiratory viruses: influenza, parainfluenza, adeno and respiratory syncytial (RS). No rapid diagnostic method has yet been developed with respect to the main etiological agents for the common cold syndrome, i.e. the rhino- and coronaviruses.

Over the last decade FA-technique has been established as the main rapid diagnostic routine method for the detection of the respiratory viruses mentioned above, while RIA- and ELISA-techniques have only been employed in a few major diagnostic laboratories.

During the last eight years this FA-technique has been employed at our department with the following results: