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P. Little, F.D. Hobbs, M. Moore, et al., Clinical score and rapid antigen detection test to guide antibiotic use for sore throats: randomised controlled trial of PRISM (primary care streptococcal management). *BMJ.* 2013 Oct 10;347:f5806.

Sore throat is a common respiratory infection and most patients presenting with acute sore throat are prescribed antibiotics despite a Cochrane review documenting only modest symptomatic benefit. Clinical scoring (Centor criteria) and rapid streptococcal antigen tests (RADTs) are used to predict streptococcal infection and target antibiotics use. In this study conducted in primary care setting in UK authors tested a new scoring system, acronym FeverPAIN (Fever during previous 24 h; Purulence; Attends rapidly (within three days); Inflamed tonsils; No cough/coryza) and compared the three strategies for limiting or targeting antibiotic usage in patients aged ≥ 3 yrs presenting with acute sore throat. The objective of the study was to determine whether the use of this clinical score or rapid antigen tests compared to delayed antibiotic prescribing can modify antibiotic use and patient outcome. They randomized 631 patients into three groups based on method adopted for targeted antibiotic use: Delayed antibiotics group (the control group for analyses), Clinical score group, or Antigen test group (Antigen test used according to clinical score). In the delayed antibiotic group a prescription was prepared and left in reception, with advice to the patient to collect the prescription after three to five days if symptoms did not settle or were getting considerably worse. In the Clinical score group clinical score (FeverPAIN) was applied, and immediate antibiotics were offered for those with high scores (≥ 4). In patients randomized to the rapid antigen test group the clinical score was applied to all patients, and those with higher scores (≥ 3) underwent a rapid antigen test. The patients with negative results were not offered antibiotics.

Outcomes assessed were: Symptom severity reported by patients on a 7 point Likert scale at 2–4 days after the consultation (primary outcome), duration of symptoms and use of antibiotics. Follow up for primary outcome was 80%. Severity of symptoms was lower in the clinical score group (-0.33 , 95% confidence interval -0.64 to -0.02 ; $P = 0.04$), with a similar reduction for the antigen test group (-0.30 , -0.61 to -0.00 ; $P = 0.05$). Symptoms rated moderately bad or worse resolved significantly faster in the clinical score group (hazard ratio 1.30,

95% confidence interval 1.03–1.63) but not in the antigen test group (1.11, 0.88–1.40). Use of antibiotics was 46% (75/164) in the delayed antibiotics group, 29% (60/161) in the clinical score group (adjusted risk ratio 0.71, 95% confidence interval 0.50–0.95; $P = 0.02$) and 27% (58/164) in the antigen test group (adjusted risk ratio 0.73, 95% confidence interval 0.52–0.98; $P = 0.03$). There were no significant differences in the rates of complications or reconsultations. The authors concluded that targeted use of antibiotics for acute sore throat with a clinical score improves reported symptoms and reduces antibiotic use and antigen tests used according to a clinical score provide similar benefits but with no clear advantages over a clinical score alone. Based on the findings of this study clinical scoring (FeverPAIN) can be used to target antibiotics use for acute sore throat, which is likely to reduce antibiotics use and improve symptom control. There is no clear advantage of a rapid antigen detection test over the clinical score alone. Use of clinical score alone may save health care costs on preventing the need for rapid strep testing and decreasing the antibiotics usage. Although the inclusion criteria allowed children, this was primarily a study of adults as the mean age of study participants was 29–31 yrs. Given that rating scales differ considerably in children versus adults and the sample size does not allow subgroup analysis by age, the conclusions of the study cannot be applied to children. The clinical score (FeverPAIN) is new and interesting because its use may save health care costs and antibiotics usage. Further studies in larger patient groups including children are needed to study this approach in depth before the results can be extrapolated to children.

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