



British Thoracic Society 2009 Adult Asthma Audit Dr Bernard Higgins

It is now almost 20 years since the UK's first truly national audit of asthma admissions. In 1990 (and in a repeat audit a year later) deficiencies were demonstrated in the early management of asthma, and more particularly in discharge arrangements. Subsequent audits, substantial but without national coverage, have shown that deficiencies in assessment of severity are common. These were, and remain, important issues. So, have things improved? The 2009 BTS audit should help us answer this question.

Overview

The latest BTS audit covers 110 units in the UK and includes data on 2,385 individual management episodes. This is more extensive data than was acquired 20 years ago (36 hospitals took part in the 1990 audit), aided by improvements in our ability to collect information electronically. The sampling frame covers around half of the admitting units in the country, and we can therefore have some confidence that the data reflects standard practice.

Readmission rates are regarded as an important global indicator of good care, and in the past decade a gradual increase in readmissions among adults has caused some concern. In this audit, the number of cases who had also been admitted in the previous month was 8.34%. This is a little below the national readmission rate for all conditions, but perhaps disappointing for a disease like asthma which is classified as being amenable to treatment.

Assessment

Peak expiratory flow (PEF) is still the most easily available index of severity of airflow obstruction for acute attacks of asthma. Measurement and monitoring of this informs management decisions at several points in the patient pathway, and evidence of accurate recording is therefore an important quality marker. The 2009 audit found PEF data recorded in 87.4% of cases, which includes patients whose peak flow was too low to register. Occasional patients will refuse to use a peak flow meter, but not enough to justify an acquisition rate below 90%. Previous audits have demonstrated similar deficiencies in objective measurement of airflow obstruction, and the available evidence suggests that where this leads to misjudgement of severity the direction of error is usually towards underestimation.

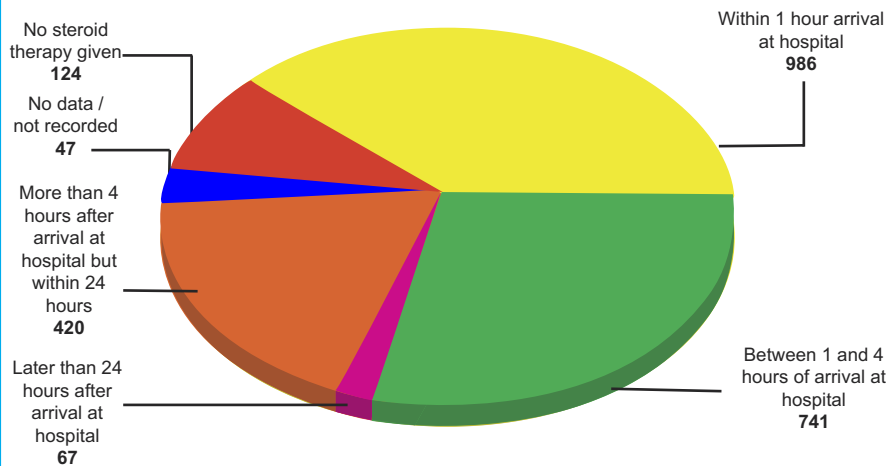
It is difficult to judge the severity of the patients in this audit from the PEF data without knowing predicted values, but data on oxygenation is available. Oxygen saturation was recorded in 96.5% of cases. Similarly high acquisition levels have been shown in other audits, undoubtedly reflecting the ease of measurement and the obvious value of saturation readings. The BTS/SIGN Asthma Guideline suggests that arterial blood gas measurements should be obtained if oxygen saturation is below 92% on room air. This was the case in 423 patients (18.4%) but only 312 (74%) went on to arterial sampling. However, a total of 884 patients had blood gas measurements. There must be a suspicion that some of these were unnecessary as 572 of them did not have low oxygen saturation, but it is difficult to say this with confidence since these patients may have had other markers of severe or life threatening asthma. Of note, the PaCO₂ was greater than 6kpa in 139 cases.

Treatment

In the 1990 BTS audit, 8% of patients did not receive systemic steroid therapy until 24 hours or more after admission. In the current audit, this figure had fallen to 3%. Curiously a small number of patients did not receive systemic steroids at all. I have been able to contact some of the supervising doctors in these cases, and it appears that this results from patients with immediate access to ward admission, who on occasion prove not to have a significant exacerbation. (Figure 1)

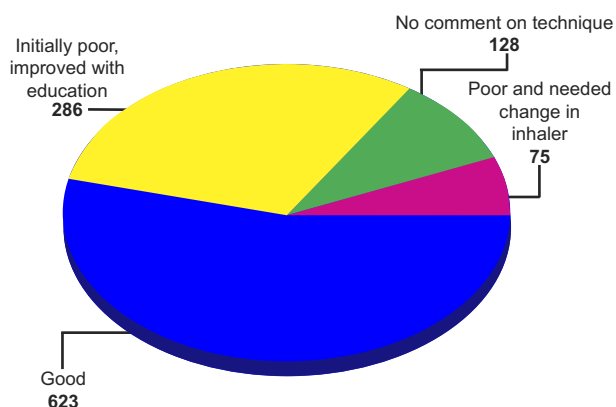
There were 288 patients taking no regular preventative treatment at the time of admission (presumably these are mainly new diagnoses). Almost all of these patients were discharged on inhaled steroids, although one might have expected this figure to be 100%. Of those already on preventative treatment this was intensified in 29.8%. This data could not be determined in almost a fifth of cases, a strange omission given the legal importance of medication records.

Figure 1 – Timing of administration of 1st dose of systemic corticosteroid



One salient lesson from the audit emerges from information on inhaler technique. This was not checked during the admission in a little over 20% of cases, and it was not possible to tell whether it was checked in a further 30%. Documentation of technique was present in less than half of cases (46.9%). Among these, inhaler technique was good in only 56%. Nearly half required some correction, and in 6.7% the problem was sufficient to necessitate a change in the type of inhaler. The message is clear: checking inhaler technique is worthwhile but is too often neglected. (Figure 2)

Figure 2 – Results of checks on inhaler technique. Technique was checked in less than 50% of admissions



Review

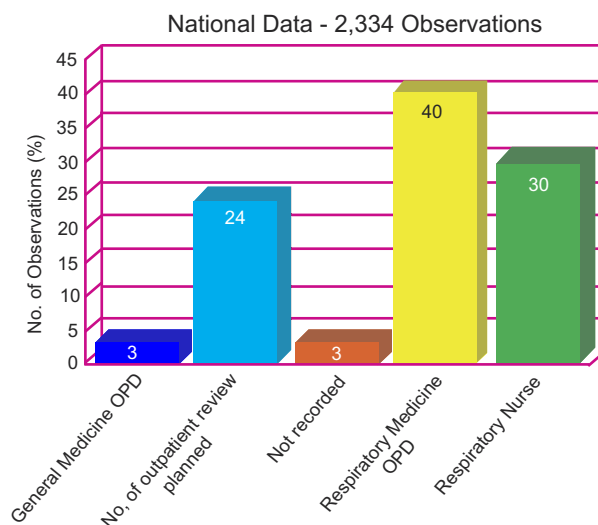
Review arrangements were shown to be inadequate in previous audits, and the current audit confirms this. No review was offered in a quarter of cases. Only a third were asked to see their GP within a week, and hospital follow up was longer than a month post-discharge in over a quarter of those with follow up appointments. This may be a resource issue, or may reflect a view amongst patients and /or doctors that earlier review serves no purpose, yet there is evidence that it reduces the rate of further exacerbations. (Figure 3)

Summary

The 2009 BTS audit has provided an extremely useful snapshot of care of acute asthma admissions in the UK. In comparison with previous audit we can see some improvement (we are quicker at getting our patients onto systemic steroids) but also old problems that haven't gone away (deficiencies in assessment and in follow-up arrangements). These issues should not be too hard to address, and we should ask ourselves why they persist. Importantly, patchy checking of inhaler technique has been demonstrated and seems to represent a simple, valuable target for improvement.

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Figure 3 – Follow up arrangements



This report has been prepared by the British Thoracic Society to provide an overview of the 2009 National Adult Asthma Audit. The report also appears in the June 2010 issue of the BTS Audit Newsletter.