JOURNAL CLUB SUMMARIES

What's hot that the other lot got

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PLATELETS IN PNEUMONIA

It is not uncommon to see thrombocytosis or thrombocytopenia in patients with pneumonia. This study (*Platelets* doi: 10.1080/09537104.2016.1219032) investigated whether platelet count on admission, at discharge, or change in platelets during admission had any prognostic significance in patients with pneumonia. The study followed 976 patients hospitalised for community-acquired pneumonia and looked at all-cause mortality at 90 days and 3 years. Mortality was significantly higher in the group who had a fall in platelets (by more than 50×10^9/L) during their admission compared with those whose platelets rose (by more than 50×10^9/L) or had no change ($p<0.001$). Mortality was also significantly higher in those with thrombocytopenia on discharge. A rising platelet count during admission was found to be a powerful predictor of better survival. Platelet count changes could be used as a prognostic marker for pneumonia.

AZITHROMYCIN IN ASTHMA

Azithromycin as a long-term antibiotic is being increasing used in a range of respiratory conditions. The AZALEA trial (*JAMA Internal Medicine* doi: 10.1001/jamainternmed.2016.5664) studied whether a short course of azithromycin had any benefit in the treatment of acute asthma, given its antibacterial, anti-inflammatory and possible antiviral effects. This UK-based randomised, double-blind, placebo-controlled trial looked at whether 3 days of azithromycin 500 mg once daily had any benefit compared with placebo when added to standard care in adults admitted to hospital with acute asthma and given systemic corticosteroids. The primary outcome was diary card symptom score 10 days after randomisation. Secondary outcomes included Asthma Quality of Life Questionnaire scores, lung function tests and time to 50% reduction in symptoms. Sputum, serum and viral swabs were analysed for possible bacterial or viral infection. The trial was ultimately underpowered due to difficulty in recruitment and there was no significant difference between the treatment and the placebo group in any of the outcomes. The authors conclude that azithromycin added to standard treatment has no clinically significant benefit in acute asthma exacerbations. They comment that the large numbers of patients excluded for having already started antibiotics may have selected out patients who might have benefited from azithromycin but also has implications for antimicrobial stewardship.

HEPATOTOXICITY & TB MEDICATION

When a patient on anti-TB medication develops rising liver function tests (LFTs) with signs of hepatotoxicity, treatment often has to be stopped then reintroduced one drug at a time to identify the causative agent. This interrupts treatment and means second and third line drugs sometimes have to be used. This Irish study (*QJM* doi: 10.1093/gimed/hcw160) sought to find predictors of those who would develop hepatotoxicity. A total of 275 patients treated for TB were studied retrospectively. Fifteen of these had developed hepatotoxicity in response to the medication. There was a significant difference in the mean age of those developing hepatotoxicity compared with those who did not (52.95 vs 41.33 years). Irish-born patients were also more likely to develop hepatotoxicity. There was no significant association between alcohol use and development of hepatotoxicity. Other factors investigated but with no significant association were smoking, site of disease and illicit drug use. The study found that peak aspartate aminotransferase levels occurred in week 10 rather than within the first 2 weeks as expected. The findings of the study are unlikely to change the initial treatment strategy for future patients but may well guide frequency of LFT monitoring.

LONG-TERM OXYGEN THERAPY

Long-term oxygen therapy (LTOT) at ≥15 hours/day has a proven survival benefit in patients with hypoxaemic COPD. Many patients are prescribed oxygen more than this, up to 24 hours, which, as a consequence to being 'tied' to their concentrator can reduce independence and prevent them getting 'out and about'. This Swedish prospective, observational study (*PLoS ONE* doi: 10.1371/journal.pone.0163293) sought to see if there was any additional survival benefit with oxygen use above 15 hours. A total of 2249 patients started on LTOT were followed until death, withdrawal of LTOT or study end date with all-cause, respiratory and cardiovascular mortality being studied. They were divided into two groups: those prescribed LTOT 24 hours/day or 15–16 hours/day. In the LTOT 24 hours/day group, 288 (53%) patients died compared with 629 (52%) in the LTOT 15–16 hours/day group. There was no additional survival benefit of being on oxygen for more than 15 hours.

THE SIROCCO TRIAL

This study (*Lancet* doi: 10.1016/S0140-6736(16)31324-1) assesses the safety and efficacy of benralizumab, an anti-interleukin-5 receptor monoclonal antibody that depletes eosinophils. It is designed as add on therapy for patients with severe eosinophilic asthma uncontrolled on standard treatment. This randomised, double-blind, placebo-controlled phase III study aimed to recruit adults with a diagnosis of asthma with at least two exacerbations in the previous year despite being on high-dose inhaled corticosteroids and a long-acting β2 agonist (ICS+LABA). A total of 1205 patients were randomly assigned to receive treatment with benralizumab 30 mg every 4 weeks, 30 mg every 8 weeks or placebo. Treatment was for 48 weeks in addition to their standard therapy. Patients with eosinophil counts of more than 300/μL were included in the primary analysis. Both treatment regimens of benralizumab significantly reduced the asthma exacerbation rate compared with placebo ($p<0.0001$). Benralizumab also significantly improved pre-bronchodilator FEV_1 and asthma symptoms (the latter only in the 8-weekly regimen) compared with placebo. Benralizumab was relatively well tolerated. Benralizumab could be used as an effective add on therapy in uncontrolled eosinophilic asthma.

Competing interests None declared.

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