Bronchiectasis

P100 SUCCESSFUL ERADICATION OF RESPIRATORY TRACT MRSA IN CYSTIC FIBROSIS: A RETROSPECTIVE STUDY

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Introduction The prevalence of pulmonary MRSA infection in cystic fibrosis (CF) has been increasing and is associated with accelerated pulmonary function decline and higher mortality rates. Eradication is generally recommended but there is no consensus of the optimal regimen. The current prevalence at our centre is low (3%, n = 20).

Method Retrospective review of adult patients with newly acquired MRSA infection (2007–2012) confirmed by ≥1 positive sputum culture. Data were retrieved from clinical records. "New" infection was confirmed by ≥3 consecutive preceding negative MRSA cultures over ≥12 months. Reflective of changing practice towards MRSA eradication at our centre, antibiotic therapy was categorised as either "conventional" (pre-2008) - a single oral agent, or "contemporary" (2008 +) using dual oral therapy (based on sputum susceptibilities). Our primary outcome was successful MRSA eradication from sputum at 3 months.

Results 32 infection episodes (n = 25) were identified. 19 patients had a single episode of infection, 5 had 2 and 1 patient had 3, each separated by an MRSA-free period of ≥12 months. 13 episodes were treated by conventional approaches (n = 13), and 13 by contemporary means (n = 12). Eradication was not attempted for 6 episodes. Eradication at 3 months was confirmed by negative sputum cultures after treatment by conventional or contemporary regimens in 45% and 80% episodes, respectively (p = NS).

Combined Rifampicin/Fusidic acid (Rif/Fus) and single agent tetracyclines were the most widely used regimens (treatment duration, median 2 weeks (range 1.4–4)). Rif/Fus was used for 8 infection episodes (n = 8), achieving eradication rates at 3 months of 100% (6/6 patients). Negative MRSA sputum cultures were maintained in 75% (6/8) patients at 6 months and 37.5% (3/8) at 12 months. Tetracyclines were used for 9 infection episodes (n = 9), achieving eradication rates of 42.9% at 3 months (3/7), 33.3% at 6 months (3/9) and 33.3% at 12 months (3/9). Rif/Fus was more likely to achieve eradication at 3 months compared with tetracyclines (p = 0.03), but this did not maintain statistical significance at 6 or 12 months.

Conclusion Our findings demonstrate contemporary treatment with an antibiotic combination, particularly Rif/Fus, to be an effective MRSA eradication strategy. This requires validation with a prospective controlled trial.

P101 DOES IVACAFTOR IMPROVE OBJECTIVE MEASUREMENTS OF HEALTH IN PATIENTS WITH THE G551D CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR (CFTR) PROTEIN MUTATION? THE EXPERIENCE OF A UK CYSTIC FIBROSIS CENTRE

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Introduction and Objectives The CFTR potentiator, Ivacaftor, has recently been launched in England for use in adult cystic fibrosis patients with at least one copy of the G551D mutation. Formal clinical trials have demonstrated significant improvements in spirometry, weight and quality of life symptom scores in patients taking this new drug. We wish to report our experience of Ivacaftor in a standard clinic setting through longitudinal follow-up of our patients over a six month period.

Methods 11 patients were started on Ivacaftor between December 2012 and February 2013. Before starting Ivacaftor we measured spirometry (FEV1 and FVC), weight, liver function tests, quality of life symptom scores and the number of antibiotic courses for infective exacerbations in the preceding 3 months. Repeat measurements were taken at 3 months after starting Ivacaftor and compared to baseline. Liver function tests were monitored as per manufacturer's advice, with the intention to stop Ivacaftor if there was a significant rise in liver function tests.

Results 10 patients remained on Ivacaftor at 3 months (one patient was lost to follow-up). Baseline spirometry in these patients demonstrated an average percentage predicted FEV1 of 58.2% (SD ± 19.8) and average percentage predicted FVC of 77.9% (SD ± 22.2). Spirometry improved in all patients at 3 months compared to baseline; average increase in predicted FEV1 12.2% (p = 0.010) and average increase in predicted FVC 15.8% (p = 0.006). All but one patient gained weight with an average weight increase of 2.1 kg (p = 0.013). The use of antibiotics to treat exacerbations significantly improved; only 1 patient required antibiotics in the 3 months after starting Ivacaftor. One patient, whilst taking concomitant anabolic steroids, had to stop Ivacaftor after a six-time rise in alanine transaminase. After stopping steroids, he subsequently restarted Ivacaftor without deterioration in liver function.

Conclusions At 3 months our patients demonstrated statistically significant improvements in spirometry and weight after starting Ivacaftor. Importantly, Ivacaftor has been well tolerated with reported improvements in symptom burden and reduced exacerbation rates; 3 patients have returned to work/changed jobs and one has starting full-time education. Further results from six month follow-up, including quality of life symptom scores, are awaited.

P102 SWEAT CHLORIDE IS NOT A USEFUL MARKER OF CLINICAL RESPONSE TO IVACAFTOR

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Introduction and Objectives The development of the targeted CFTR potentiator Ivacaftor has significantly altered the landscape for cystic fibrosis (CF) therapeutics, and heralds the arrival of personalised medicine in this condition. Data from Phase III clinical trials have been encouraging and suggested that the use of Ivacaftor results in a normalisation of sweat chloride and significant increases in pulmonary function and weight in suitable patients. As part of the commissioning requirements for Ivacaftor in the UK, sweat chloride changes represent the major criteria for continuing prescription, with a reduction of 30% or reduction below 60 mmol/L proposed as cut-offs for continuation of therapy. We aimed to assess the relationship of sweat chloride to clinical outcomes in patients receiving Ivacaftor treatment.

Methods All Ivacaftor naïve patients who carried the G551D mutation were contacted to enable the commencement of the

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