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.

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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