

1. "Friendly bacteria" take on the mighty *C. difficile*

There is considerable controversy as to whether probiotics, the regular ingestion of live bacteria or yeasts, the so-called "Friendly Bacteria", are useful in the prevention of nosocomial infection, in particular antibiotic-associated diarrhoea. A *BMJ* randomised double blind placebo controlled trial of 135 hospitalised patients on antibiotics found that taking a *Lactobacillus*-containing probiotic twice daily significantly reduced the risk of antibiotic-associated diarrhoea (7/57 (12%) in the probiotic group vs. 19/56 (34%) in the placebo group) and toxin-positive CDAD (no one in the probiotic group vs. 9/53 (17%) in the placebo group) (Hickson et al. 2007). The accompanying *BMJ* editorial corroborates the main conclusions of the trial but identifies some limitations including the fact that only a small proportion (8%) of the patients on antibiotics in the hospital were included in the trial, incomplete description of the probiotics and limited clinical data on each episode of CDAD (McFarland 2007).

A review in *Chest* including Medline indexed studies from 1996-2006 concludes that there is no evidence that probiotics have any benefit for preventing hospital-acquired pneumonia and that multicentre trials are necessary before probiotics should be used to prevent antibiotic-associated diarrhoea (Isakow et al. 2007). Another review, also published this month, covering Medline indexed studies from 1970-2007 concludes that probiotics may be useful in treating or preventing recurrences of CDAD (Segarra-Newnham 2007). However, the review concludes that the potential side effects of probiotics (occasional infections in immunocompromised patients) may outweigh the benefits and that rational antibiotic use may be a better option to prevent a first episode or recurrence of CDAD. The accompanying editorial puts a more positive spin on the future of probiotic therapy, concluding that they are safe and effective for preventing antibiotic-associated diarrhoea, in particular repeat episodes (Karpa 2007).

The evidence for and against probiotics is confusing and, at times, conflicting. There is evidence that probiotics may be effective for the prevention and treatment of CDAD, but more high-quality evidence is required to sway professional opinion.

2. Increasing rates of *C. difficile*-associated disease on both sides of the Atlantic

Reports from both sides of the Atlantic have identified increasing rates of *Clostridium difficile*-associated disease (CDAD). A news story in the *BMJ* on the latest UK HPA mandatory reporting scheme identifies a 22% increase in the number of CDAD cases in those over 65 years compared with the previous quarter (Eaton 2007). However, much of this increase may be due to season variation so a more valid comparison would be with the comparable quarter in 2006, which shows a modest increase of just 2%. A retrospective analysis of ICD-9 discharge codes in the USA from 1993-2003 identified increases in the prevalence and severity of CDAD after controlling for comorbidities (Ricciardi et al. 2007). The rate of CDAD discharges increased by 109% from 261 cases per 100 000 discharged patients in 1993 to 546 cases per 100 000 discharged patients in 2003, with a notable increase from 2001 onwards.

3. Cocolonisation with MRSA and VRE in children

VRE was cultured from 23 patients over an 18-month period at a US children's hospital (Benson et al. 2007). Eight of these patients were cocolonised or coinfecting with MRSA, one of whom had VRE and MRSA cultured from the same foot ulcer. This raises the worrying possibility of transfer of the vancomycin-resistance gene, *vanA*, from VRE to MRSA resulting in vancomycin-resistant *Staphylococcus aureus* (VRSA), which has been demonstrated in the laboratory and in clinical practice.

4. Severe CA-MRSA paediatric infections in the USA

The severity of CA-MRSA infection has once again been highlighted by a study from a hospital in Nashville, Tennessee, one of the hot-beds of CA-MRSA infection. The hospital has had eight cases of severe CA-MRSA sepsis in patients less than 19 years old in the past two years, only four of which have survived with intact neurological function (Castaldo and Yang 2007).

5. HCAI rates remain high despite a national hand-hygiene initiative

Amidst a flurry of letters discussing the pros and cons of the 'National Observational Study to Evaluate the CleanYourHandsCampaign' (NOSEC) study in the *Journal of Hospital Infection*, the NOSEC team report their preliminary findings (Stone et al. 2007). Alcohol hand rub (AHR) usage has indeed increased, but not at the expense of soap consumption. However, crucially, there were no changes in healthcare-associated infection rates (HCAI), suggesting that the apparent increase in hand hygiene compliance did not reduce the rate of HCAI.

6. And finally... 'the UK's biggest political football...'

...is none other than the National Health Service (NHS), according to John McConnell, editor of *The Lancet Infectious Diseases* in his article on 'Public reporting in the UK of hospital infections' in the proceedings of the Hospital Infection Society meeting published in the *Journal of Hospital Infection* (McConnell 2007). For this reason, the UK press are extraordinarily interesting in hospital acquired infection (HAI) compared with their counterparts in other countries. HAI stories are often inaccurate and at times misleading and John McConnell urges doctors and scientists to improve their communication with the media.

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