Summary of: Oral health, dental prophylaxis and catheter related bloodstream infections in home parenteral nutrition patients: results of a UK survey and cohort study

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FULL PAPER DETAILS

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Background Concern that some catheter related bloodstream infections (CRBSI) arise from dental treatment in home parenteral nutrition (HPN) patients results in recommendation of antibiotic prophylaxis. Clinical guideline 64 is widely recognised and observed. There is a lack of consistent guidance for other patient groups viewed at risk from procedural bacteraemia. **Methods** 1. An email survey of the British Association for Parenteral and Enteral Nutrition (BAPEN) HPN group, requesting physicians' opinions, observations and practises relating to oral health and CRBSI prevention; 2. Comparison of oral health parameters and dental treatment in relation to patient reported 12 month CVC infection history, using chi-square analysis to assess associations in 52 HPN patients. **Results** 1. Sixty-eight percent of the UK HPN Group responded. Fifty percent linked oral health/dental treatment with the possibility of CRBSI, 39% were unsure. Sixty-one percent had recommended parenteral prophylactic antibiotics (82% IV, 18% IM), mainly following the historic infective endocarditis (IE) dental prophylaxis guidelines. Infection with streptococci, prevotella and fusobacteria caused most concern. Amoxicillin, metronidazole, co-amoxyclav and gentamycin were the most prescribed antibiotics. Thirty-six percent might delay HPN if oral health was poor; 57% had recommended dental examination and 25% dental extractions, to prevent or treat CRBSI. 2. Associations between patient recalled CVC infection and their current dental status, the interval since dental treatment or the prophylaxis received over the previous 12 months did not achieve significance. **Conclusions** Opinion varies among UK HPN providers on the role of dental treatment and oral health in CRBSI and on prescribing prophylactic antibiotics for dental treatment. Prophylaxis guidance specific to this patient group is required.

EDITOR'S SUMMARY

As I have written here previously, one of the privileges of this job is being able to witness the enormous range of situations in which dentists find themselves as well as the outreaches of care in which they operate. This paper represents such an example which, while admittedly at the extremities of the likely experiences of most readers serves to illustrate the unusual circumstances in which guidelines and protocols can be stretched to their limits.

The debate over the need for antibiotic cover, or not, for preventing infective endocarditis has received much attention and to date the absence of cover seems not have had detrimental affects on patients' wellbeing. In the context of this paper however the possible risk from procedural bacteraemia raises the issue once again, in an area not addressed by the NICE guidelines. Few of us are likely to come across such circumstances but an appreciation of the situation in which some colleagues find themselves in providing the oral care for such dependent patients is helpful to our greater understanding.

The fact that oral health is a real consideration for these patients being fed intravenously means that our old favourite subject of interdisciplinary co-operation hoves once more into view. Consultation with medical staff is required and indeed essential in order to safeguard the oral as well as the general welfare of this patient group but even so the lack of guidance on antibiotic prophylaxis begs for more research. The problem with this plea is that, as in other instances of specific care for those with particular or special needs, the available 'pool' of people to study is by definition very small, frustrating attempts to conduct any form of larger scale project or assessment. Although often scorned for using smaller scale research protocols, authors such as in this study, must be commended for bringing to light what evidence they can in order to safeguard present and future patients.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 212 issue 2.

Stephen Hancocks
Editor-in-Chief

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IN BRIEF

- GDPs are the principle dental care providers for patients with complex medical conditions.
- There are patient groups viewed as at risk from procedural bacteraemia that are not specifically covered by any standard clinical guideline and physicians may view them as being excepted from standard guidance on antimicrobial prophylaxis.
- Physicians' opinions and prescribing practice are often determined locally and require consideration.

RESEARCH

COMMENTARY

This paper examines the practices surrounding patients with intestinal failure who rely on home parenteral nutrition. These patients have an indwelling venous catheter for delivery of nutrition and catheter infection is a significant problem. This paper highlights that there is confusion and a lack of evidence as to whether dental procedures cause catheter infections and whether antibiotic prophylaxis is required.

The NICE guidelines on prophylaxis against infective endocarditis considered the need for antibiotic prophylaxis only in patients with cardiac defects who were at increased risk of developing infective endocarditis. They did not consider other groups at increased risk of distant site infections such as patients with hereditary haemorrhagic telangiectasia or those on home parenteral nutrition. There is no evidence regarding the need for antibiotic prophylaxis in these groups and this paper highlights this and also shows there is no clear evidence that dental procedures are responsible for catheter infections.

The authors also highlight the lack of any established practice around improving patient's oral health status before they are placed on home parenteral nutrition.

There has been no significant rise in the incidence of infective endocarditis following the NICE recommendations on the lack of need for antibiotic prophylaxis for cardiac patients but these recommendations cannot be extrapolated to other groups as this paper highlights.

There is clearly now a need for further research into the role of dental procedures in distant site infections.

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AUTHOR QUESTIONS AND ANSWERS

1. Why did you undertake this research?

It was known that to prevent catheter related bloodstream infections some physicians were recommending antimicrobial prophylaxis prior to dental procedures in their patients. As no evidence-based guideline existed it was suspected that practice would vary between specialist centres nationally. It seemed likely that particular antimicrobial prescribing practices may affect access to dental care for the HPN patient group. There was little evidence in the literature to inform the prescription of procedure related antimicrobial prophylaxis or dental care specific for this group. It was hoped to describe the nature, extent and experience informing antimicrobial prescribing practice and its impact on patients' dental care experience and treatment choices.

2. What would you like to do next in this area to follow on from this work?

We would like to develop and pursue further research strategies to fully determine the role of procedural bacteraemia as a potential source of catheter related bloodstream infection for this patient group. Consensus and robust guidance on appropriate use of procedure related antimicrobial prophylaxis for this group of patients would thus be informed. We hope to further develop our education package to highlight to this group their specific oral health risk factors at the earliest stages of medical and nutritional management. This would hopefully develop awareness among patients and medical and dental teams caring for them of the particular importance and value to be placed on good oral health.