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In this issue of The HITH Review we have provided commentaries on two published articles, and abstracts of four other relevant publications. We would also like to draw the reader's attention to the availability of the systematic review of HITH for acute exacerbations of chronic obstructive pulmonary disease from the Cochrane Library that we mentioned in the previous HITH review.

Most of the articles listed in this review are available either from libraries in Australia or journal websites. Copies of articles with an asterisk (★) required for educational or research purposes can be requested from ACA when they are not available from your library. When ordering articles from ACA please use the order form available on our website.

We appreciate receiving your feedback on The HITH Review and would particularly welcome any contributions.

We at ACA would like to wish you all best wishes for the festive season in this last issue for 2004.

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Sharps injuries

Lisa Demos

Haiduven D, Ferrol S. Sharps injuries in the home health care setting. Risks for home health care workers. *AAOHN* 2004; 52:102-8. ★

This article described a cross-sectional prevalence pilot study of needlesticks and blood exposures conducted among three San Francisco home health care agencies. Needlesticks and blood borne exposure reports from 1993 to 1996 were submitted by the agencies. The exposures were categorised using an existing categorisation system. A total of 52 exposures occurred and nurses sustained 92% of exposures. Twenty-three percent occurred before, during or after needle disposal; 17% from manipulating intravenous access ports; 15% from improper disposal and 13.5% during or after blood draw.

Needle safety devices need to be specifically designed for the home care setting. Furthermore a standardised rate of calculating needlestick injuries is needed for this setting.

comment

This retrospective study has several limitations including the inability to determine exposure rates. However as there is little published data on needlesticks injuries in home care it provides some useful information for homecare staff. It highlights the need to establish a standardised method for calculating needlestick and blood exposures in this setting. It also highlights the importance of safer needle devices and occupational health practice. The authors also suggest a method to calculate needlestick injuries in homecare.

Ceftazidime infusions for melioidosis

Lisa Demos

Huffam S, Jacups SP, Kittler P et al. Out of hospital treatment of patients with melioidosis using ceftazidime in 24 h elastomeric infusers, via peripherally inserted central catheters. *Trop Med Internat Health* 2004; 9:715-7. ★

In the Northern Territory, Australia, 25-50 patients are admitted to Royal Darwin Hospital each year with *Burkholderia pseudomallei* infection, or melioidosis. Treatment consists of initial intensive therapy with 2-4 weeks of intravenous antibiotics. Clinical improvement may occur early and patients often prefer to be managed out of hospital in the Hospital in the Home (HITH).

A prospective observational study was undertaken to evaluate safety and efficacy of HITH management of patients with melioidosis. Standard management involved 6g of ceftazidime as a 24-hour infusion given via a peripherally inserted central catheter (PICC) line, plus oral sulphamethoxazole trimethoprim. Treatment was administered in the home, which included Darwin, regional areas or remote communities, or in hospital self-care units.

From February 1998 to December 2001 150 patients were admitted with culture confirmed *B. pseudomallei* infection. Of these, 73 patients were treated with 24 h ceftazidime infusions, of which 70 patients were managed by HITH. PICC line complications occurred in 14 patients giving a complication rate of 10.6/1000 days in situ. Six patients had relapse and 3 had recrudescence of disease, nearly all as a result of poor adherence to subsequent oral eradication therapy these patients were all re-treated successfully. One patient remains infected with *B. pseudomallei*.

This clinical outcome study suggests that out of hospital management of melioidosis with 24-hour infusions of ceftazidime via a PICC line is safe and effective.

comment

This article is not a randomised controlled trial rather it summarises the experience of a HITH program in managing patients with melioidosis with 24-hour ceftazidime infusions given via an elastomeric infusor device. Melioidosis is an endemic disease in tropical North Australia. HITH involves the community nurses who change the infusers daily and at least weekly medical follow-up. The treatment was well tolerated with 80.8% of patients completing treatment without complication. PICC line complications occurred in 14 patients, this complication rate is lower than that obtained in

a previous hospital audit. Overall HITH management appears generally safe and effective despite ceftazidime stability concerns at temperatures >25°C. From the information provided monitoring of patients appears warranted to ensure treatment adherence and minimise relapse.

Relevant abstracts from Medline and Cinahl

US Practice Guidelines for HITH Antibiotic Therapy

Tice AD, Rehm SJ, Dalovisio JR et al. Practice guidelines for outpatient parenteral antimicrobial therapy. *Infusion Nurs* 2004; 27:338-59. ★

These guidelines were formulated to assist physicians and other health care professionals with various aspects of the administration of outpatient parenteral antimicrobial therapy (OPAT). Although there are many reassuring retrospective studies on the efficacy and safety of OPAT, few prospective studies have been conducted to compare the risks and outcomes for patients who receive treatment as outpatients rather than as inpatients. Because truly evidence-based studies are lacking, the present guidelines are formulated from the collective experience of the committee members and advisors from related organizations.

Important aspects of OPAT are described in the text and tables and include the following:

1. The literature supports the effectiveness of OPAT for a wide variety of infections.
2. A thorough assessment of the patient's general medical condition, the infectious process, and the home situation is necessary before starting therapy
3. Prescribing physicians should be aware of a number of aspects of OPAT which distinguish it from other forms of therapy. These include the required teamwork, communication, monitoring, and outcome measurements.
4. The physician has a unique role on the OPAT team, which may also include nursing, pharmacy, and social services. These responsibilities include establishing a diagnosis, prescribing treatment, determining the appropriate site of care, monitoring during therapy, and assuring the overall quality of care.
5. Antimicrobial selection for OPAT is different from that for therapy in the hospital. Once-daily drug administration has many advantages. Potential for adverse effects and the stability of an antimicrobial once it is mixed must be considered
6. The importance of administering the first dose of an antibiotic in a supervised setting is emphasized.
7. Regular clinical and laboratory monitoring of patients receiving OPAT is essential and varies with the antimicrobial chosen.
8. Outcomes measures should be an integral part of any OPAT program, to assure the effectiveness and quality of care.
9. Children receiving OPAT must be considered differently because of their special needs.

Australian Consensus Guidelines on Warfarin Reversal

Baker RI, Coughlin PB, Gallus AS et al. Warfarin Reversal Consensus Group. Warfarin reversal: consensus guidelines, on behalf of the Australasian Society of Thrombosis and Haemostasis. *Med J Aust* 2004; 181:492-7. ★

For most warfarin indications, the target maintenance international normalised ratio (INR) is 2-3. Risk factors for bleeding complications with warfarin include age, history of past bleeding and specific comorbid conditions. To reverse the effects of warfarin, vitamin K(1) can be given. Immediate reversal is achieved with a prothrombin complex concentrate (PCC) and fresh frozen plasma (FFP). Vitamin K is essential for sustaining the reversal achieved by PCC and FFP. When oral vitamin K is used for warfarin reversal, the injectable formulation is preferable to tablets because of its flexible dosing; this formulation can be given orally or injected. To temporarily reverse the effect of warfarin when there is a need to continue warfarin therapy,

vitamin K should be given in a dose that will quickly lower the INR to a safe, but not subtherapeutic, range and will not cause resistance once warfarin is reinstated. Prothrombinex-HT is the only PCC approved in Australia and New Zealand for warfarin reversal. It contains factors II, IX and X, and low levels of factor VII. FFP should be added to Prothrombinex-HT as a source of factor VII when used for warfarin reversal.

Simple dental or dermatological procedures may not require interruption to warfarin therapy. If necessary, warfarin therapy can be withheld 5 days before elective surgery, when the INR usually falls to below 1.5 and surgery can be conducted safely. Bridging anticoagulation therapy for patients at high risk for thromboembolism should be undertaken in consultation with the relevant experts.

Outpatient LMWH for DVT: US Pharmacy Position Statement

American Society of Hospital Pharmacists. ASHP therapeutic position statement on the use of low-molecular-weight heparins for adult outpatient treatment of acute deep-vein thrombosis. *Am J Health-Syst Pharm* 2004; 61:1950-5. ★

The ASHP believes that the use of LMWH therapy for the treatment of acute deep-vein thrombosis (DVT) in appropriate adult outpatients is as safe and effective as traditional inpatient therapy with unfractionated heparin.

Outpatient treatment of acute DVT with LMWH is often more cost-effective than traditional inpatient therapy and is associated with greater patient satisfaction.

When opportunities exist, health care professionals are encouraged to actively participate in developing, implementing and monitoring outpatient DVT treatment programs.

Nursing Management of Peripheral Intravascular Devices

Lopez V, Molassiotis A. Chan W-K et al. An intervention study to evaluate nursing management of peripheral intravascular devices. *Infusion Nurs* 2004; 27:322-30. ★

This study examined the impact that implementation of guidelines for the management of peripheral intravascular devices had on nurses' knowledge and practice as well as patient outcome. A pre- and post-test nonequivalent experimental study was conducted in a Hong Kong tertiary care teaching hospital. The results showed that the percentage of correct answers for all questions was significantly higher at the post-test. The overall results also showed significant practice improvement in terms of the flushing agent used, documentation, and site dressing. There also was a decrease in the incidence of extravasation and phlebitis. It was concluded that evidence-based practice is important for improving patient outcomes. Compliance with the guidelines served as an important measure for the prevention of intravascular device-related complications.

List of Medline, Cinahl and other relevant published articles

Anaphylaxis

Posner L. Epinephrine is safe for anaphylaxis treatment in most patients. ACAAI 2004 Annual Meeting Abstract P40, Nov 2004. *Medscape Medical News*. 2004 www.medscape.com/viewarticle/493877 ★

Carers

Tibaldi V, Aimonino N, Ponzetto M et al. A randomized controlled trial of a home hospital intervention for frail elderly demented patients: Behavioural disturbances and caregiver's stress. *Arch Gerontol Geriatr* 2004; Suppl 9: 431-6

Catheter Maintenance

Dedrick SC, Ramirez-Rico J. Potency and stability of frozen urokinase solutions in syringes. *Am J Health-Syst Pharm* 2004; 61:1586-9. ★

Chronic Obstructive Pulmonary Disease

Ram FSF, Wedzicha JA, Wright J, Greenstone M. Hospital at home for acute exacerbations of chronic obstructive pulmonary disease. Review. *The Cochrane Collaboration* 2004; Issue 4. ★

Clinical Records

Zuber R. Back to basics. The clinical record. *Home Healthcare Nurse* 2004; 22:327-32. ★

Competency

Counce J. Cultivating nursing competencies. Working with home health agencies for better infusion patient care. *Infusion* 2004; 10:12-18. ★

Diabetes

Benson H. Creating a diabetes education home care program. One agency's success story. *Home Healthcare Nurse* 2004; 22:508. ★

Frable PJ, Wallace DC, Ellison KJ. Using clinical guidelines in home care for patients with diabetes. *Home Healthcare Nurse* 2004; 22:462-8. ★

Kleinbeck C, Williams AS. Disabilities, diabetes, and devices. *Home Healthcare Nurse* 2004; 22:469-75. ★

Tobin CT. Seven basic principles of diabetes care. *Home Healthcare Nurse* 2004; 22:491-5. ★

Warwick KW. Nutrition tips for managing diabetes on a limited budget. *Home Healthcare Nurse* 2004; 22:496-501. ★

Drug Therapy & Medication Management

Long CO. Keeping up with drug use and safety. *Home Healthcare Nurse* 2004; 22:530-1. ★

National Association for Home Care. The importance of appropriate therapy utilization. *Home Healthcare Nurse* 2004; 22:547-8. ★

Education and Training

Benson H. Creating a diabetes education home care program. One agency's success story. *Home Healthcare Nurse* 2004; 22:508. ★

Elderly Patients

Larson K. Fluid balance in the elderly: assessment and intervention - important role in community health and home care nursing. *Geriatric Nurs* 2003; 24:306-9. ★

Sheeran T, Brown EL, Nassisi P et al. Does depression predict falls among home health patients? *Home Healthcare Nurse* 2004; 22:384-9. ★

Tibaldi V, Aimonino N, Ponzetto M et al. A randomized controlled trial of a home hospital intervention for frail elderly demented patients: Behavioural disturbances and caregiver's stress. *Arch Gerontol Geriatr* 2004; Suppl 9: 431-6.

Emergency Department

Kihlgren A, Fagerberg I et al. Referrals from home care to emergency hospital care: basis for decisions. *J Clin Nurs* 2003; 12:28-36.

Immunoglobulin

Werner K. Exciting new IGIV research presented at the 5th international symposium for IGIV. *Infusion* 2004; 10:33-7. ★

Infections and Antibiotic Therapy

Brown M. The impact of safety product use on catheter-related infections. *Infusion Nurs* 2004; 27:245-50. ★

Hepburn MJ, Dooley DP, Skidmore PJ et al. Comparison of short-course (5 days) and standard (10 days) treatment for uncomplicated cellulitis. *Arch Intern Med* 2004; 164:1669-74. ★

Huffam S, Jacups SP, Kittler P et al. Out of hospital treatment of patients with melioidosis using ceftazidime in 24 h elastomeric infusers, via peripherally inserted central catheters. *Trop Med Internat Health* 2004; 9:715-7. ★

Wang D-P, Chiou AH-J, Lee DKT. Compatibility and stability of ceftazidime sodium and tenoxicam in 5% dextrose injection. *Am J Health-Syst Pharm* 2004; 61:1924-7. ★

Infection Control

Brown M. The impact of safety product use on catheter-related infections. *Infusion Nurs* 2004; 27:245-50. ★

Infusion Devices & Pumps

Counce J. FDA considering voluntary certification of infusion pumps for home use. *Infusion* 2004; 10:26-8. ★

Kramer N. Standardizing organizational pump use: A case study. *Infusion* 2004; 10:21-5. ★

Lopez V, Molassiotis A, Chan W-K et al. An intervention study to evaluate nursing management of peripheral intravascular devices. *Infusion Nurs* 2004; 27:322-30. ★

Mastorovich MJ. In the interest of patients. An evidence-based assessment of the safety of vinyl infusion care devices. *Infusion Nurs* 2004; 27:332-7. ★

Saladow J. Trends in ambulatory infusion pumps. *Infusion* 2004; 10:16-19. ★

Mental Health

Brown EL, Bruce ML, Raue PJ et al. How well do clinicians recognize depression in home care patients? *Home Healthcare Nurse* 2004; 22:569-71. ★

Johnston-Rowbotham L. More emphasis on and practitioners in psychiatric home care is needed. *Home Healthcare Nurse* 2004; 22:276. ★

Miscellaneous

Anemaet WK, Krulish LH, Lindstrom KC et al. Evaluating physical therapy utilization under PPS. *Home Healthcare Nurse* 2004; 22:549-59. ★

Fermazin M, Canady MO, Milmine P et al. Home health compare web site offers critical information to consumers and professionals. *Home Healthcare Nurse* 2004; 22:408-16. ★

Nursing

Lopez V, Molassiotis A, Chan W-K et al. An intervention study to evaluate nursing management of peripheral intravascular devices. *Infusion Nurs* 2004; 27:322-30. ★

Smith-Stoner M. Home care nurses' perceptions of agency and supervisory characteristics. Working in the rain. *Home Healthcare Nurse* 2004; 22:536-46. ★

Oncology

Gammon DC, Lizotte MW. Safety and cost-effectiveness of Paclitaxel administered as a 1-hour infusion versus a 3-hour infusion for various malignancies. *Infusion Nurs* 2004; 27:251-3. ★

Parenteral Drug Stability

Dedrick SC, Ramirez-Rico J. Potency and stability of frozen urokinase solutions in syringes. *Am J Health-Syst Pharm* 2004; 61:1586-9. ★

Smith DL, Bauer SM, Nicolau DP. Stability of meropenem in polyvinyl chloride bags and an elastomeric infusion device. *Am J Health-Syst Pharm* 2004; 61:1682-5. ★

Wang D-P, Chiou AH-J, Lee DKT. Compatibility and stability of ceftazidime sodium and tenoxicam in 5% dextrose injection. *Am J Health-Syst Pharm* 2004; 61:1924-7. ★

Parenteral Nutrition

Anonymous. Pharmatel and Fresenius Kabi joint venture to provide nutrition therapy to patients. *Aust J Pharm* 2004; 85: 810-3. ★

Patient safety

Krulich L. MO of the month. M0700 - ambulation/ locomotion. *Home Healthcare Nurse* 2004; 22:534-5. ★

Patient Satisfaction

Leff EW. Involving patients in care decisions improves satisfaction. *Home Healthcare Nurse* 2004; 22:297-301. ★

Peri-operative Anti-coagulation

Pass SE, Simpson RW. Discontinuation and reinstatement of medications during the perioperative period. *Am J Health-Syst Pharm* 2004; 61:899-912. ★

Watts SA, Gibbs NM. Outpatient management of the chronically anticoagulant patient for elective surgery. *Anaesth Intensive Care* 2003; 31:145-54. ★

Pharmaceutical Compounding

Newton D, Trissel L. A primer on USP <797> "Pharmaceutical compounding-sterile preparations" and USP process for drug and practice standards. *Infusion* 2004; 10:38-41. ★

US Pharmacopeia Convention. New national standards on pharmaceutical compounding. *Infusion* 2004; 10:20-2. ★

Point of Service

Smith Wright C. Orienting the clinician to point of service systems. *Home Healthcare Nurse* 2004; 22:687-94. ★

Practice Guidelines

Tice AD, Rehm SJ, Dalovisio JR et al. Practice guidelines for outpatient parenteral antimicrobial therapy. *Infusion Nurs* 2004; 27:338-59. ★

Quality, Outcomes, Indicators and Standards

Counce J. FDA considering voluntary certification of infusion pumps for home use. *Infusion* 2004; 10:26-8. ★

Counce J. HIPPA. Security rule imminent, providers best prepare. *Infusion* 2004; 10:28-32. ★

Dillon LR. Occurrence reporting: steps to a better process. *Infusion* 2004; 10:44-6. ★

Navaie-Waliser M, Lincoln P, Karuturi M, Reisch K. Increasing job satisfaction, quality care and coordination in home care. *JONA* 2004; 34:88-92. ★

Safety

Brown M. The impact of safety product use on catheter-related infections. *Infusion Nurs* 2004; 27:245-50. ★

Haiduven D, Ferrol S. Sharps injuries in the home health care setting. Risks for home health care workers. *AAOHN* 2004; 52:102-8. ★

Long CO. Keeping up with drug use and safety. *Home Healthcare Nurse* 2004; 22:530-1. ★

Mastorovich MJ. In the interest of patients. An evidence-based assessment of the safety of vinyl infusion care devices. *Infusion Nurs* 2004; 27:332-7. ★

Telemedicine and Technology

Artinian NT, Washington OGM, Klymko KW et al. What you need to know about home blood pressure telemonitoring but may not know to ask. *Home Healthcare Nurse* 2004; 22:680-6. ★

Elebiary H. Window of opportunity for home care nurses: telehealth technologies (letter). *Online J Issues Nurs* July 2003.

www.nursingworld.org/ojin/letters/t16e3.htm ★

Burgiss S, Dimmick SL. Home telehealth business planning and cost analysis. *Home Healthcare Nurse* 2004; 22:715-22. ★

Frantz A. Matching telehealth applications to the patient, clinician, and agency's needs. *Home Healthcare Nurse* 2004; 22:672-5. ★

Goulis DG, Giaglis GD, Boren SA et al. Effectiveness of home-centred care through telemedicine applications for overweight and obese patients: a randomized controlled trial. *Internat J Obesity* 2004; 28:1391-8. ★

Sanner T. Using telehealth to address the nursing shortage. *Home Healthcare Nurse* 2004; 22:695-9. ★

Thrombosis

American Society of Hospital Pharmacists. ASHP therapeutic position statement on the use of low-molecular-weight heparins for adult outpatient treatment of acute deep-vein thrombosis. *Am J Health-Syst Pharm* 2004; 61:1950-5. ★

Anonymous. Is that it, then, the blockbuster drugs? *Lancet* 2004; 364:1100. ★

Baker RI, Coughlin PB, Gallus AS et al. Warfarin reversal: consensus guidelines, on behalf of the Australian Society of Thrombosis and Haemostasis. *Med J Aust* 2004; 181:492-7. ★

Brighton TA. The direct thrombin inhibitor melagatran/ximelagatran. *Med J Aust* 2004; 181:432-7. ★

Gustafsson D, Bylund R, Antonsson T et al. A new oral anticoagulant: the 50-year challenge. *Nature Reviews - Drug Discovery* 2004; 3:649-59. ★

Prandoni P, Bernardi E, Marchiori A et al. The long term clinical course of acute deep vein thrombosis of the arm: prospective cohort study. *Br Med J* 2004; 329:484-506. ★

Prandoni P. Towards the simplification of antithrombotic treatment of venous thromboembolism. *Ann Intern Med* 2004; 140:925-6. ★

Wound Management

Biala KY, Cervantez K, Hadrian D et al. Building the foundations of wound care training. *Home Healthcare Nurse* 2004; 22:304-11. ★

Cannon BC, Cannon JP. Management of pressure ulcers. *Am J Health-Syst Pharm* 2004; 61: 1895-905. ★

Doughty DB. Preventing and managing surgical wound dehiscence. *Home Healthcare Nurse* 2004; 22:364-7. ★

National Association for Home Care. CMS issues new OASIS guidance for accurate coding of pressure ulcers. *Home Healthcare Nurse* 2004; 22:677. ★

National Association for Home Care. CMS details coverage of electrical stimulation and electromagnetic therapy for wound treatment in home health setting. *Home Healthcare Nurse* 2004; 22:676. ★

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Whilst every effort is made to reliably report the data and comments from the journal articles reviewed, no responsibility is taken for the accuracy of articles appearing in The HITH Review, and readers are advised to refer to the original papers for full details of the research.