

Editorial

Investigation and management of pediatric pleural empyema

James Stallworth*

Department of Pediatrics, University of South Carolina, School of Medicine, 14 Medical Park, Suite 400, Columbia, SC 29203, USA

Received 1 February 2007

Accepted 2 February 2007

Community acquired pneumonias with complications such as empyema cause significant childhood morbidity. *Staphylococcus aureus* and *Streptococcus pneumoniae* remain the microbiologic cause of empyema worldwide but their sensitivities to antibiotics are changing [1]. “Best practice” treatment strategies are being addressed. For example, a recent study in Pediatrics by Kurt et al. [2] comments on the “controversy surrounding the optimal treatment of parapneumonic effusions in children”. Their study, an algorithmic approach demonstrating some components of an integrated pathway, strongly suggested primary video-assisted thorascopic surgery (VATS) as the superior treatment over conventional thoracostomy drainage. But more randomized controlled studies are needed that critically appraise this and other treatment strategies regarding this topic. Local practice, less invasive versus more invasive surgical techniques (VATS versus decortication, “pigtail catheter” versus large bore drains), new means in the identification of causative organisms such as polymerase chain reaction, techniques in the delivery of antibiotics, radiological tools, and the use of fibrinolytics represent some of the variables that impact on the management of children with empyema. Other

management issues include length of therapy, inpatient versus outpatient care, newer analgesic regimens, and the access and use of other resources such as respiratory therapy and child life support.

Integrated care pathways are means to document “best practices” for managing complex medical conditions. These pathways allow a multidisciplinary approach that can be critically appraised and help validate optimal medical and/or surgical management. They also serve as a teaching aid and valuable clinical tool [3].

In this issue of the *Journal of Pediatric Infectious Diseases*, Paize et al. [4] at the Institute of Child Health in Liverpool, England, developed an integrated care pathway for the management of pediatric pleural empyema. This article complements the recommendation by Jaffe and Balfour-Lynn in their article, “Management of empyema in children,” whereby they call for an urgent need to develop the best treatment guidelines for children with this complication of infectious pneumonia [5].

In addition, integrated care pathways standardize care and have been used in other medical conditions to enhance clinical governance and monitor quality care indicators [3,6,7]. In the pathway by Paize and colleagues [4], outcome data were compared with previous managements, and validated the positive impact of the pathway in the care of pediatric patients with empyema. Also, the pathway supported the use of consistent analgesic provision in the optimal management

*Correspondence: James Stallworth, M.D., Associate Professor of Pediatrics, Department of Pediatrics, University of South Carolina, School of Medicine, 14 Medical Park, Suite 400, Columbia, SC 29203, USA. E-mail: James.stallworth@palmettohealth.org.

of these children. Although not included in their article, assessing acute phase reactants is another design element that could be part of an integrated pathway.

Integrated care pathways provide an organized and structured approach to patient care and are based on evidence based medicine and consensus from a variety of individuals with expertise in the care of children. They provide an accessible framework for documentation of practice. However, as more and more of these “management algorithms” are developed and implemented, care must be taken to ensure these pathways continue to be viewed as management guidelines and not as “standards of care”. Their need to be critically reviewed remains a mandate for their use.

References

- [1] K.D. Schultz, L.L. Fan, J. Pinsky et al., The changing face of pleural empyemas in children: epidemiology and management, *Pediatrics* **113** (2004), 1735–1740.
- [2] B.A. Kurt, K.M. Winterhalter, R.H. Connors, B.W. Betz and J.W. Winters, Therapy of parapneumonic effusions in children: video-assisted thoracoscopic surgery versus conventional thoracostomy drainage, *Pediatrics* **118** (2006), e547–e553.
- [3] M. Ouwens, H. Wollersheim, R. Hermens, M. Hulscher and R. Grol, Integrated care programmes for chronically ill patients: a review of systematic reviews, *Int J Qual Health Care* **17** (2005), 141–146.
- [4] F. Paize, E. White, L.J. Heaf et al., An integrated care pathway for optimizing the investigation and management of pediatric pleural empyema, *J Pediatr Infect Dis* **2**(2) (2007), 77–82.
- [5] A. Jaffe and I.M. Balfour-Lynn, Management of empyema in children, *Pediatr Pulmonol* **40** (2005), 148–156.
- [6] F. Dooley and E. White, An integrated care pathway for burns, *Paediatr Nurs* **15** (2003), 14–18.
- [7] B.W. Ellis and S. Johnson, The care pathway: a tool to enhance clinical governance, *Clin Perform Qual Health Care* **7** (1999), 134–144.