

Lack Of Concordance in Parapneumonic Effusion Management in Central European Children: Spain Is Not Different

TO THE EDITOR:

Hafen et al. have recently reported a lack of mutual consensus among four Central European countries (Austria, France, Germany, Switzerland) regarding the management of pediatric parapneumonic effusion.¹ This is not a really unexpected finding, since the treatment of large, organized and purulent effusions remains controversial, and different approaches have been reported: from conservative antibiotic treatment to chest tube insertion or other surgical procedures, mainly video-assisted thoracoscopic surgery (VATS). Clinical trials have shown equivalence between pleural drainage with fibrinolysis and VATS,² but no trial has compared conservative (only antibiotics) versus invasive management for empyema and complicated pleural effusions. Despite antibiotic treatment alone is generally not recommended in current guidelines, some reports have observed that this approach is suitable for some patients.³

We have made a collaborative electronic survey among the members of Spanish pediatric societies of pulmonology (SENP), infectious diseases (SEIP), intensive care (SECIP), and surgery (SECP). Their associates were requested to answer a survey consisting in a questionnaire partly adapted from that developed by Hafen et al. The request was made by e-mail from the SENP, SEIP and SECIP to their members, with a second reminder mail 2–3 weeks later. The SECP did not send a mail but published the request in their e-bulletin; no reminder was sent.

The survey was completed by 124 pediatricians or pediatric surgeons experts in intensive care (37%), respiratory diseases (27%), infectious diseases (26%) and pediatric surgery (10%) working all over Spain, notably from Madrid (30%) and Barcelona (11%), mostly attending in hospitals equipped to care for children affected with empyema (83%), treating a median of 10 patients annually (interquartile range: 5–20) per center. Most centers (54%) follow guidelines published in Spain⁴ and 38% have indeed their own guidelines; 17% centers do not follow any particular guideline.

Lung computed tomography is not usually done (17%) but diagnostic thoracentesis is performed in some centers (46%), and the evolution is monitored by means of ultrasound examinations (94%), C-reactive protein determinations (87%), and differential blood cell counts (72%). Cefotaxime or ceftriaxone are commonly prescribed for these patients (81%) and ampicillin or amoxicillin are frequently used (45%); other antibiotics are vancomycin (21%), amoxicillin with clavulanic acid (12%), clindamycin (11%), penicillin (9%), and macrolides (7%).

A drainage procedure is decided based on radiological findings (87%), clinical evaluation (68%), or laboratory results (28%). According to some respondents (20%), empyema or other large, organized or complicated effusions may be not drained if clinical progress of the patient is favorable. A chest tube for drainage is the first option in most centers (89%) over VATS (11%). The chest tube is mainly inserted by pediatric intensivists (62%) and pediatric surgeons (41%); procedural sedation and analgesia is performed by pediatric intensivists (66%), anesthesiologists (36%), and hospital pediatricians (13%). Only 2% never use fibrinolytics, while only 3% use those always; 51% use fibrinolytics in some patients and 44% in most of them. Chest tube drainage is commonly maintained for 3–4 days (65%) or 5–7 days (32%). VATS is never used in 20%, only occasionally in 60%, in about half of patients in 18% or in most patients in 3%.

Respondents believe that the best approach to initial management of children affected with empyema or a complicated pleural effusion is a chest tube with fibrinolytics (44%), but other options are only antibiotics (18%), a chest tube without fibrinolytics (17%), or VATS (17%).

We believe that our results are representative of the actual management of empyema and complicated pleural

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effusions in children in Spain, and resemble those reported by Halfen et al. in Central Europe. Children in Spain are usually treated with a third generation cephalosporin and a chest tube for drainage; fibrinolytics are variably used. Many other aspects of diagnosis and treatment are dependent upon the hospital where the child is admitted. Notably, 18–20% of centers may treat these patients with antibiotics and avoid invasive procedures if clinical progress is favorable; on the contrary, VATS is or could be the first option for 11–17% of centers. Our results lead us to support the conclusions formulated in the paper of Hafen et al. specially asking for better quality research in this field in order to get evidence-based knowledge to guide our clinical decisions.

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