TORCH Brightens Patients’ COPD Survival Prospects

‘This study brings a message of hope.’

BY BRUCE JANGIN
Elsevier Global Medical News

SALT LAKE CITY — The combination of inhaled salmeterol and fluticasone propionate is the first-ever drug therapy shown to reduce mortality in patients with chronic obstructive pulmonary disease, according to the results of the landmark Towards a Revolution in COPD Health (TORCH) study.

The findings, presented by Dr. Alain Mercat, of the University Hospital of Angers, France, presented the results of the ExPress (Expiratory Pressure) study. The randomized controlled trial examined 28- and 60-day mortality in 767 acute respiratory distress syndrome patients.

Patients were randomized to ventilation using one of two expiratory pressure (PEEP) strategies: minimal alveolar dis-tention (total PEEP set between 5 and 9 cm H2O) or maximal alveolar recruitment (PEEP set to obtain a plateau pressure of 28-30 cm H2O). Both strategies used a target tidal volume of 6 ml/kg of predicted body weight.

The patients’ mean age was 60 years. Their mean SAPS II score was 37.9.

Higher PEEP May Mean Better Outcomes

BY MICHÈLE G. SULLIVAN
Elsevier Global Medical News

B ARCELONA — Ventilation strategies aimed at opening the lung with higher positive end-expiratory pressure settings appear safe and may decrease both short- and longer-term mortality in patients with acute lung injury, investigators said at the annual congress of the European Society of Intensive Care Medicine.

Preliminary analyses of two very recently completed European ventilation trials also concluded that these strategies were associated with lower rates of rescue therapies, and didn’t significantly increase the rate of barotrauma in ventilated patients.

Dr. Alain Mercat, of the University Hospital of Angers, France, presented the results of the ExPress (Expiratory Pressure) study. The randomized controlled trial examined 28- and 60-day mortality in 767 acute respiratory distress syndrome patients.

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Lung Cancer Screening May Boost Survival

BY JOHN R. BELL
Elsevier Global Medical News

CT screening of asymptomatic patients at risk for lung cancer may boost survival rates for those with stage I cancer and prove to be cost-effective, according to the results of a multicenter observational study.

The early screening initiative led to estimated 10-year survival rates of 92% in patients with detected stage I lung cancer who underwent resection within a month of diagnosis, the study’s authors reported.

“In a population at risk for lung cancer, such screening could prevent some 80% of deaths from lung cancer,” wrote investigators from the International Early Lung Cancer Action Program. In addition, “we found CT screening for lung cancer to be highly cost-effective.”

The program, led by Dr. Claudia Henschke of Cornell University in New York, and comprising E-ELCAP sites in the United States, Canada, Japan, China, Israel, Italy, and Spain, reported results for a group of 31,567 asymptomatic but at-risk patients (median age 61 years) screened between 1993 and 2003 (N. Engl. J. Med. 2006;355:1768-71). Of this cohort, 412 were diagnosed with stage I lung cancer.

All participants underwent a baseline CT screening. Those with negative results subsequently underwent annual spiral CT screenings.

Patients who at baseline had a positive result (at least one solid or partially solid nodule) were diagnosed with lung cancer. Of these, 412 were diagnosed with stage I lung cancer. All participants underwent a baseline CT screening. Those with negative results subsequently underwent annual spiral CT screenings.

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See Lung Cancer Screening • page 6
performed significantly better on all secondary end points as well. The incidence of moderate to severe exacerbations was reduced by 25% compared with placebo. Health status as measured by the St. George’s Respiratory Questionnaire was better than with either drug alone or placebo. And mean forced expiratory volume in 1 second (FEV1) was 9.1% higher in the fluticasone/salmeterol arm than with placebo.

TORCH was the largest clinical trial in COPD. Given the size of the study, Dr. Celis said, “to me the signal is strong enough to say that given the data of the study—a FEV1 below 60% of predicted, more than 10 years of smoking, obstruction in the fluticasone/salmeterol arm compared with placebo.”

The separation of PEEP levels was highest during the first 3 days, when the average difference between groups was 6 cm H2O. In hospital mortality was significantly higher in the control group than in the LOV group (40% vs. 36%), for a risk ratio of 0.90. When adjusted for age and the presence of sepsis, the mortality difference was not significantly different, but was still higher in the control group (39% vs. 38%). LOV patients had significantly less refractory hypoxemia (5% vs. 10%). The LOV group also had a modest, but nonsignificant, decrease in refractory acidosis (6% vs. 8%), and a nonsignificant increase in barotrauma (3% vs. 2%). The use of rescue therapies was relatively low but significantly more common in the control group control (12% vs. 8%). “The context of these findings is key,” Dr. Meade said. “They are consistent with those of other trials comparing current ventilation strategies, including ExPress and the adjusted analysis of the ALVEOLI trial (N. Engl. J. Med. 2004;351:327-36).”
nodule at least 5 mm in diameter, one or more nodules in non-calciﬁed pulmonary nodules 8 mm or larger, or a solid endobronchial nodule) received another CT scan at 3 months. An immediate PET scan followed by ﬁne-needle aspiration (FNA) biopsy for PET-positive lesions or 3-month follow-up CT for PET-negative lesions. Non-occurrence on the baseline CT could also undergo immediate biopsy. Signs of nodule growth seen in the 3-month scans prompted FNA biopsy.

whereas work-up ceased for lesions with no growth.

A total of 484 patients were diagnosed with lung cancer. Of those, 490 were diagnosed with lung cancer based on a 6-month follow-up scan. Analysis found another 74 patients with lung cancer; 5 additional patients were diagnosed with lung cancer between baseline and 3 months with lung cancer, 412 died at stage 1.

The investigators conducted a Kaplan-Meier survival analysis of the cohort and found an estimated 10-year survival rate of 88% in the stage 1 group. The estimated 10-year survival rate was 92% among the patients whose lung cancer was suspected within 1 month of diagnosis. Notably, all eight patients who refused treatment for their cancer died within 5 years of diagnosis.

CT screening estimates of CT screening for lung cancer are similar to those of mammography screening, the investigators noted. The cost of low-dose CT is less than $200, they wrote, and surgery to remove stage 1 lung cancer is less than half the cost of treatment in late-stage lung cancer.

In asymptomatic people, “the serendipitous discovery of lung cancer ... is currently the principal way in which stage I lung cancer is diagnosed,” Dr. Michael Unger of Fox Chase Cancer Center, Philadelphia, noted in an accompanying editorial (N. Engl. J. Med. 2006;355:1822-4).

The historically low survival rate for patients with lung cancer is partly due to the advanced disease stage at the time most lung cancers are diagnosed, he added. In the study, the high cure rate in patients with early-stage breast cancer that is detected by means of mammography and ul- trasonography,” Dr. Unger wrote.

Important questions remain unanswered, however. Biases such as overdiagnosis and lead time could have found their way into the mortality analysis, Dr. Unger cautioned, and chest CT scans on their own don’t reveal differences between growing granulomatous lesions and tumors. Despite the investigators’ assertions, “the question of whether overdiagnosis remains unanswered,” he added.

Nonetheless, Dr. Unger concluded, the study “is provocative, welcome salvo in the long struggle to reduce the tremendous burden of lung cancer on society.”

Workers’ Respiratory Symptoms Improve After Smoking Ban

Banning smoking in public places improves the signs and symptoms of smoking related illness in bar workers, according to Dr. Daniel Menzies of the Asthma and Allergy Program at Ninewells Hospital in Dundee, Scotland.

“The recent introduction of a smoking ban in Scotland prohibiting smoking in enclosed public spaces has led to a rapid and marked improvement in the health of bar workers,” Dr. Menzies and his colleagues reported (JAMA 2006;296:1742-8).

The researchers conducted a prospective study of 77 bar workers, none of whom were active smokers at the time of the study, in a Scottish city from February to June 2006. The ban on smoking in enclosed public spaces went into effect March 26, 2006.

The results showed statistically signiﬁcant changes in many pre- and postban measures. The percentage of bar workers with respiratory and sensory symptoms fell from 79.2% before the ban to 46.8% 1-2 months later. Forced expiratory volume in the first second rose from 96.6% of predicted to 106% of predicted (all p-values < .001). Serum cotinine levels decreased from 5.15 mg/L to 3.22 mg/L (all p-values < .001). Airway inﬂammation also decreased, as shown by a reduction in exhaled nitric oxide from 34.3 parts/billion to 27.4 parts/billion 1 month after the smoking ban went into effect.

“Worker’s respiratory symptoms improved after a smoking ban was introduced,” the researchers concluded. “These results reiterate the importance of implementing smoking restrictions in enclosed spaces because of the potential health beneﬁts to bar workers.”

—Sarah Pressman Lovinger
FDA Approves Bevacizumab in Lung Cancer Regimen

BY ELIZABETH MEHNGHATIE
Eliscvier Global Medical News

The Food and Drug Administration last month gave physicians a new tool in the battle against lung cancer, approving the antiangiogenesis agent bevacizumab in combination with chemotherapy as an initial treatment of unresectable non-small cell lung cancer. "While this is not a silver bullet or panacea, this is an incremental benefit and represents a significant advance in treatment," said Dr. W. Michael Alberts, FCCP, chief medical officer at the H. Lee Moffitt Cancer Center, Tampa, and past president of the American College of Chest Physicians.

The FDA okayed the combination of bevacizumab, a recombinant monoclonal antibody that inhibits angiogenesis, and carboplatin and paclitaxel as initial systemic treatment of unresectable, locally advanced, recurrent or metastatic nonsquamous non-small cell lung cancer.

The FDA approval was based on a study of more than 800 patients and demonstrated that adding bevacizumab to the standard chemotherapy regimen increased median survival by about 2 months, according to the FDA.

Bevacizumab, marketed as Avastin by Genentech, is a therapeutic antibody that binds to and inhibits human vascular endothelial growth factor (VEGF), thought to play a role in angiogenesis and maintenance of blood vessels in tumors, according to Genentech.

The randomized, controlled, multicenter trial enrolled 878 patients with unresectable, locally advanced, recurrent or metastatic nonsquamous NSCLC who had not been treated with chemotherapy previously. Median patient age was 63 years.

All patients were treated with carboplatin and paclitaxel, about half also received bevacizumab, administered in an intravenous infusion every 3 weeks.

The median overall survival for patients receiving bevacizumab was 12.3 months, 1 year survival among those who did not receive bevacizumab.

One-year survival was 51% among those on bevacizumab and chemotherapy, vs. 44% among those patients on chemotherapy alone, according to Genentech.

This was a median increase, so survival in some patients was greater than 2 months, commented Dr. Alberts. Some patients in the trials were from his institution, but Dr. Alberts said he has no financial ties to Genentech.

The trial was conducted by a network of investigators led by the Eastern Cooperative Oncology Groups and was sponsored by the National Cancer Institute, according to the company.

Neutropenia, fatigue, hypertension, infection, and hemorrhage were the most common severe adverse events in bevacizumab-treated patients.

In the subset of those in the bevacizumab arm who had pulmonary hemorrhage requiring medical intervention, vs. 0.5% among those on chemotherapy alone.

Pulmonary hemorrhage was fatal in seven patients in the bevacizumab arm and one in the chemotherapy only arm.

Genentech plans to launch a program in January that will cap the cost of bevacizumab therapy at $55,000 a year for eligible patients for any FDA-approved use of bevacizumab.

Asthma is a chronic inflammatory disease. We know that the severity of asthma corresponds to the severity of inflammation, and that inflammation is treatable. Treatment algorithms that incorporate inflammation, and that inflammation is treatable. Treatment algorithms that incorporate inflammation, and that inflammation is treatable. Treatment algorithms that incorporate inflammation, and that inflammation is treatable.

In addition to history taking and clinical examination, various techniques have been developed recently that are thought to reflect asthmatic inflammation, such as measurement of nitric oxide in exhaled breath, the cellular characteristics of induced sputum, and the composition of condensates of exhaled breath. At present, there are no evidence that these methods are of great value in monitoring or controlling asthma.

Numerous nitric oxide studies were published last year, including three important studies that purport to support the use of exhaled nitric oxide (eNO) for monitoring asthma.

The first, published in May 2005 in the New England Journal of Medicine (352:2163-73), reported a moderate reduction in inhaled corticosteroid use and a nonsignificant reduction in the rate of exacerbations in adult asthmatics using eNO, compared with those monitored by conventional means.

There was no significant reduction in other markers of asthma control or levels of inflammation and no mention of the cost of multiple eNO measurements.

The results of the two other studies in children were more impressive. In a study by Pijnenburg et al., there was an improvement in bronchial hyperresponsiveness was just 1.3 doubling doses between controls and eNO-managed children, which is clinically meaningful.

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The results have been more encouraging in adults, including a study by Green et al. that showed management based on induced sputum could produce fewer exacerbations, even though it did nothing to improve lung function or alter corticosteroid use (Lancet 2002;360:1715-21).

I suggest that the best use for eNO is to differentiate asthma from other types of obstructive lung diseases such as cystic fibrosis and primary dyskinseia.

Equally, consistently high nitric oxide level in the study, 2.3% of those patients in the bevacizumab arm had pulmonary hemorrhage requiring medical intervention, vs. 0.5% among those on chemotherapy alone.

Pulmonary hemorrhage was fatal in seven patients in the bevacizumab arm and one in the chemotherapy only arm.

Genentech plans to launch a program in January that will cap the cost of bevacizumab therapy at $55,000 a year for eligible patients for any FDA-approved use of bevacizumab.

POINT/COUNTERPOINT

Should Inflammatory Markers Be the Basis of Monitoring Asthma?

Yes

No

in patients whose corticosteroid dose was adjusted in a stepwise fashion on the basis of either exhaled nitric oxide (eNO) measurements or an algorithm based on exhaled nitric oxide measurements, compared with those managed conventionally. There were no differences between the two arms in clinical outcomes, but the authors reported a significant improvement in airway responsiveness to methacholine in the eNO arm. The children in this group were more responsive at baseline, suggesting that this finding reflects a regression to the mean (Am. J. Respir. Crit. Care Med. 2005;172:831-6).

Measurement of exhaled breath condensates is simple and has the advantage of detecting a range of substances. The method may be a desirable option in children with more than 90% of children completing the measurement in some studies. But there are data showing that the sensitivity of exhaled breath condensates is lower than that of induced sputum.

Although we don’t have the best tests available at the moment to measure airway inflammation, and because there is overwhelming evidence that asthma is an inflammatory disorder, we should aim to develop appropriate tests and test them using relevant clinical algorithms.

The randomized, controlled, multicenter trial enrolled 878 patients with unresectable, locally advanced, recurrent or metastatic nonsquamous NSCLC who had not been treated with chemotherapy previously. Median patient age was 63 years.

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Oxygen Therapy May Not Always Live Up to Its Billing

BY HEIDI SPLETE
Elsevier Global Medical News

CHARLESTON, W. VA. — Supplemental oxygen might help many more patients with chronic obstructive pulmonary disease during exercise, sleep, and airplane flights—but then again, it might not, Dr. Richard Casaburi, FCCP said at the annual meeting of the American Association of Cardiovascular and Pulmonary Rehabilitation.

Although recent evidence-based guidelines for managing COPD patients with chronic low oxygen levels include long-term oxygen therapy, the benefits of using supplemental oxygen in certain situations remain unclear.

"Oxygen is a great therapy, but are we sure that we're not using it in too many patients?" Dr. Casaburi said. "In some cases, we give people oxygen without evaluating them as fully as we might."

The physiologic benefits of supplemental oxygen are understood: It promotes oxygen supply to the body’s tissues and inhibits activity of the carotid body, which monitors blood oxygen levels, explained Dr. Casaburi, professor in the division of respiratory and critical care physiology and medicine at the University of California, Los Angeles.

Current evidence supports arguments both for and against supplemental oxygen for COPD patients in certain circumstances. Dr. Casaburi presented his own pro and con debate at the meeting. He has received grants from and served as a consultant for Boehringer-Ingelheim GmbH, Novartis AG, Inogen, Altana AG, Pfizer Inc., and GlaxoSmithKline.

Oxygen During Exercise

Evidence from several studies shows that when COPD patients receive supplemental oxygen during exercise, they experience less breathlessness, more controlled breathing, and decreased overinflation of the lungs.

Supplemental oxygen also allows patients to exercise longer and promotes exercise tolerance by increasing the oxygen supply to the exercising muscles. These benefits occur even in patients without clinically significant hypoxemia, Dr. Casaburi said. He cited a randomized, single-blinded, controlled study in which COPD patients who received oxygen while exercising more than doubled their endurance time during a stationary cycling test compared with breathing compressed air (Eur. Respir. J. 2001;18:77-84).

On the other hand, no investigations have conclusively shown better long-term outcomes for COPD patients who receive supplemental ambulatory oxygen. Further, it seems possible that many patients who currently receive ambulatory oxygen may be using it for a long enough period each day to generate long-term benefits, Dr. Casaburi said.

Oxygen During Air Travel

Most commercial flights are pressurized to approximately 8,000 feet, and many COPD patients become hypoxemic at that altitude, Dr. Casaburi said. In theory, all COPD patients with severe disease could be evaluated with an altitude simulation test before flying to determine their need for supplemental oxygen.

On the other hand, supplemental oxygen use during an airplane flight is awkward and expensive, and studies have shown that most COPD patients can tolerate moderate hypoxemia while flying.

Oxygen During Sleep

Nighttime oxygen therapy may be helpful for some patients with severe COPD, whom hypoxemia is worse during sleep, according to the current guidelines from the American Thoracic Society and the European Respiratory Society.

COPD patients who have a daytime arterial oxygen pressure (PaO2) greater than 60 mm Hg with proven nighttime oxygen desaturation showed improved pulmonary artery pressure when they received supplemental oxygen at night for 36 months in a randomized study of 51 patients (Am. Rev. Respir. Dis. 1992;145:1070-6).

On the other hand, no research has shown improved long-term survival when COPD patients with isolated incidents of nighttime oxygen desaturation receive supplemental oxygen while sleeping, Dr. Casaburi said. A randomized study of 76 patients contradicted the 1992 study and showed no improvement in pulmonary artery pressure for those who received nighttime oxygen compared with those who did not (Eur. Respir. J. 1999;14:1002-8).

What’s Next?

Two distinct studies are needed to help clinicians put the issue of ambulatory oxygen use for COPD patients on firm scientific ground, Dr. Casaburi concluded.

First, a study should compare the impact of stationary oxygen plus ambulatory oxygen vs. stationary oxygen alone on the long-term well-being of COPD patients who are hypoxemic both at rest and during exercise. Second, a study should compare ambulatory oxygen vs. no oxygen for patients whose oxygenation is normal at rest but who desaturate with exercise.

Large-scale studies are needed because the stakes are high for COPD patients. Such studies are difficult to conduct but worthwhile, Dr. Casaburi said.

To assess the survival outcomes of long-term oxygen therapy in COPD patients who do not meet current criteria for long-term oxygen use but have a poor prognosis, a large-scale study is being planned. The National Institutes of Health are reviewing applications, and the study will potentially include 5,000 patients from 20 sites in the United States.

Patients will be randomized to receive usual care or usual care plus long-term oxygen therapy (both stationary and ambulatory). Final details of the study design will be determined by the investigators from the individual sites.

Nebulized Arformoterol Solution Approved for COPD Treatment

A nebulized formulation of a new long-acting β2-agonist has been approved by the Food and Drug Administration for treatment of chronic obstructive pulmonary disease. Arformoterol tartrate was approved in early October for the long-term maintenance control of bronchoconstriction in people with COPD. The recommended dose is 15 mcg administered twice a day, in the morning and evening.

Arformoterol is supplied in a 15 mcg/2 mL solution. It is marketed by Sepracor under the brand name Foradil. It is an inhalation powder formulation under the name Foradil. Arformoterol is twice as potent as the long-acting β2-agonist salmeterol, according to the arformoterol label.

In two double-blind, randomized, 12-week and multicenter U.S. studies of 1,436 COPD patients, whose mean age was 65 years, and who had a mean forced expiratory volume in 1 second (FEV1) of 1.3 L (42% of predicted), those on arformoterol 15 mcg twice a day had greater postdose bronchodilation than the placebo group, according to the drug’s label. Bronchodilation was measured as a percent change in FEV1 from baseline to 12 weeks. Higher doses were studied, but did not provide enough additional benefit to justify their use.

The most common adverse effects associated with arformoterol treatment included chest pain (7%), back pain (6%), diarrhea (6%), sinusitis (3%), leg cramps (4%), dyspea (4%), and rash (4%), at rates that were 1%-4% greater than placebo, according to the label.

The label carries a black box warning that long-acting β2-adrenergic agonists may increase the risk of asthma-related deaths based on a large placebo-controlled study demonstrating an increase in asthma-related deaths in patients treated with the long-acting β2-agonist salmeterol, a finding that “may apply to arformoterol,” according to the drug’s label.

—Elizabeth Mechcatie
Lung Function Reduced in Diabetes, Large Studies Show

WASHINGTON — Diabetic patients have lower lung function than would otherwise be predicted, but the actual trajectory of their lung function parallels that of normal, healthy individuals as they age, Dr. Naresh M. Punjabi, FCCP, said at the annual scientific sessions of the American Diabetes Association.

Studies have shown that types 1 and 2 diabetic patients have reduced forced expiratory volumes, total lung volumes, and diffusion capacities. But because most of these studies have been cross-sectional, it has been hard to “ tease out” whether diabetes or reduced lung function came first, Dr. Punjabi said. There are data from post-mortem studies of diabetic individuals to suggest that the lung is a target organ for diabetic microangiopathy, as well as indirect data showing that diabetes may contribute to lower diffusion capacity.

“Are there fewer data to suggest that impaired lung function predicts future diabetes, but some evidence is beginning to show that such an association might exist, even though plausible biologic mechanisms to support it are ‘shaky,’” Dr. Punjabi said. "The decrease in lung function that could lead to impaired lung function, Dr. Punjabi said. But low lung function and diabetes risk may be determined by another underlying cause. It is possible that reduced lung function is ‘not a precursor of diabetes but just a marker of what’s going to happen eventually anyway,’” Dr. Punjabi speculated.
A

s this my first month as ACCP President, I would like to offer re-marks from my Presidential Address at CHEST 2006 in Salt Lake City. These re-
marks reflect areas of con-
cern that I hope to address, with the help of ACCP members and partners, during my year as President.

“Three years ago, Dr. Richard Irwin’s presidential address focused the College’s field of vision on the simple but profound concept of patient-focused care. Like all of us, he wants only the best care for his fam-
ily, and he challenged us to treat every patient as a member of our family.”

“When it comes to our own or families’ health care, we would want a team to help us—specialists to offer opinions or perform procedures, outstanding nurses, respiratory therapists and pharmacists, and the best technology and systems to give us the most accurate diagnosis and most effective treatment.”

“We now need to embrace a team approach in every-
thing we do in our profession, from our daily patient care to our efforts to engage and improve the system. We do this explicitly in the ICU and in the operating room. I ask that you think of your general inpatient units and your private offices and clinics in the context of a similar team approach. Conducting our professional lives in an atmos-
phere of collaboration among everyone who deals di-
rectly or indirectly with every patient will only make patients’ experiences better. In a patient-focused health system, every patient will be treated by a team.”

“Teamwork is reflected in the daily operations of the ACCP. We actively seek out other organizations with similar goals to help us, and accept similar invitations from them. The ACCP, the American Thoracic Society, the Society of Critical Care Medicine and the American Association of Critical-Care Nurses are collaborating on a national level to address a critical care workforce shortage, by working with members of Congress to draft specific legislation to address this crisis. Working as a team, and speaking with a single voice, is surely more powerful than each organization on its own.”

“As individuals and as a College, we need to act in collaboration and coordination with others to be effective. So join a team, and get busy. Form or join a team at home to improve the care of our patients, and inten-
sify your involvement with the ACCP—we welcome you, and we want your help. For clinicians, join an ACCP NetWork, get committed, and get active.”

“Let me address the new ACCP Fellows directly. You made three pledges, and I ask you to live by them and to make them happen wherever you work. You need to stay current with the literature, and you need to prac-
tice according to the best and most current evidence. The ACCP is here to help, as is the best resource for education in pulmonary, critical care, and sleep medi-
cine in the world. Never stop being a teacher, because the best way to learn something new is to have to ex-
plain it correctly to someone else. You also need to love what you do, and you need to have fun. You need to laugh, and you should have a laugh. We face your per-
sonal and professional challenges and frustrations, if you can laugh about it, you can live with it.”

“Thank you for the honor and the privilege to serve as President of the American College of Chest Physicians. I will work to the best of my ability on behalf of the College, its members, and most of all, our patients.”

In-Training Exam, Pulmonary and Critical Care Medicine

Update—October 2006

In early 2006, the training program direc-
tors for pulmonary and critical care medi-
cine met to discuss issues relevant to the
training of pulmonary and critical care
medicine fellows. At the completion of
that meeting, one of the recommenda-
tions was to investigate the development of
an in-training (in-service) examination for
fellows. It is the belief that the exami-
nation would enable the fellow to deter-
mine his/her competence in the areas of
medical knowledge and patient care and
enable the program director to effect im-
provements in the training process.

A working group (question writers) was
selected from each of the three organiza-
tions participating in the exam develop-
ment. The Association of Pulmonary and
Critical Care Medicine Program Directors,
the American College of Chest Physicians,
and the American Thoracic Society each
provided three members for the group,
and a testing agency was contracted to as-
don the examination. The

President’s Report

Embracing a Team Approach

BY DR. MARK J. ROSEN, FCCP

Imagine

See the Power.

Be the Power.

Be the Power of 10!

Imagine

See the Power.

Be the Power.

Be the Power of 10!

Watch for special 10th anniversary events
from June 2006 to June 2007, as The
CHEST Foundation commemorates 10
years of helping you help your patients
live and breathe easier. Join the celebra-
tions to see the Power of 10, as you reflect
on the good works of The Foundation.

Contribute to the Power of 10 by conducting
local programs to build awareness and broaden
support of The Foundation. Get started with a
special kit, featuring recommended activities
ranging from distributing wristbands or
tobacco prevention CDs to making
presentations using materials from The CHEST
Foundation. The required time and talent for
each activity varies, so anyone wanting to
promote The CHEST Foundation can
participate. Each activity involves a Power of
10 challenge, so the activity you choose will
increase awareness and support of The CHEST
Foundation by the Power of 10.

Request a kit or view it online, then
choose an activity and get started today.
www.chestfoundation.org
A solitary pulmonary nodule (SPN) may be defined as a round or lobulated lesion < 3 cm in diameter that is completely surrounded by lung. The incidence of SPNs in United States is approximately 150,000 per year. This rate is expected to increase as more screening CT is performed. Since 35% of newly found SPNs are malignant, the diagnosis is essential, because surgical resection of early stage lung cancer improves survival. Diagnostic tools range from close observation to thoracotomy. Of the available procedures, flexible bronchoscopy (FB) remains the safest for obtaining a tissue diagnosis. Lesion size has long been a key factor influencing the diagnostic yield. Most studies have found the yield of FB for lesions < 2 cm in diameter. As a result, current guidelines recommend other procedures for smaller lesions. In recent years, however, investigators have looked at different innovative tools and imaging techniques that may improve bronchoscopic diagnosis of the SPN. This Perspective will review the current status of FB in light of new techniques and question whether current guidelines should be modified based on these advances.

Transbronchial Needle Aspiration
Since the 1980s, many studies have confirmed that the yield of FB for SPNs improves with the addition of transbronchial needle aspiration (TBNA), although lesion size remains a limiting factor. For example, one study of different bronchoscopic sampling modalities to evaluate SPNs or masses reported an overall diagnostic yield of 73%, while the yield for lesions < 2 cm was 54% and 57% for lesions < 3 cm (Chechani. Chest 1996; 109:620). The yield of TBNA alone was 51% overall. The diagnosis was made exclusively through TBNA in 8% of cases.

Endobronchial Ultrasound
Endobronchial ultrasound (EBUS) has been used with FB to improve the yield of FB for small peripheral lesions. Using a guide sheath (EBUS-GS) and a curette to maneuver the guide sheath if the lesion was difficult to reach, the reported diagnostic yield was 53.3% for lesions < 2 cm and 66.7% for those 2 to 3 cm (Kikuchi et al. Eur Respir J 2004; 23:533). The overall yield was 58.3%. Another study used EBUS-GS with the curette technique to localize peripheral lesions followed by transbronchial biopsy (TBBx) and brushings with fluoroscopic guidance (Kurimoto et al. Chest 2004; 126:959). The diagnostic yield was 72%. The yield from TBBSx was higher than from brushings: 74% for lesions < 3 cm vs 92% for masses = 3 cm. In another comparison of EBUS-TBBx to TBBx in individuals with peripheral mass lesions, the diagnostic yield of EBUS-TBBx was 75.8% compared with 52.1% for TBBx (Paone et al. Chest 2005; 128:3551). At the lesion size decrease, the yield of TBBx declined, while the yield of EBUS-TBBx did not change. For lesions < 2 cm, the sensitivity of EBUS-TBBx was 71% compared with 23% for TBBSx. In a study of SPNs not visible by fluoroscopy, EBUS-GS was used to visualize the lesions and guide TBBx (Herth et al. Chest 2006; 129:147). The lesion size ranged from 1.4 to 3.3 cm (mean 2.2 cm). The lesions were localized in 89%, and the diagnosis was established in 76% of patients. Combining EBUS-GS with virtual bronchoscopy (VB) for SPNs < 3 cm, the diagnostic yield was 63.5% (Ashano et al. Chest 2005; 128:1761). Sensitivity was higher for lesions 2 to 3 cm in diameter (91.7%) compared with lesions < 2 cm (44.4%).

The Ultrathin Bronchoscope
The ultrathin bronchoscope has been used to improve access to peripheral lesions and obtain cytologic specimens with a small brush. A study of peripheral lesions with a mean size of 3.2 cm achieved direct visualization of the lesion in 23.5% of patients (Ronneby et al. Respiration 2002; 69:63). The yield was 70% for lesions < 3 cm, with an overall yield of 64.7%. The small brush was exclusively positive in 11.8% of cases.

CT in Bronchoscopy
CT is gaining popularity in the field of bronchoscopy. Its roles vary from a pre-procedure imaging technique helping the bronchoscopist plan procedures to continuous imaging during bronchoscopy, known as CT fluoroscopy. One group has evaluated helical CT with multiplanar reconstruction and ultrafast Panapanicalou staining in the bronchoscopic diagnosis of SPNs (Bandoski et al. Chest 2001; 124:1257). CT was used to localize the nodule and determine the bronchus leading to it, followed by curette biopsy. The curetting was repeated until positive to a maximum of four attempts. If a positive cytologic result was not obtained, traditional TBBx was performed. A diagnosis was obtained by curetting in 88% of cases. The yield for lesions < 2 cm was 82%, and there was no statistically significant difference in the yields for larger lesions. The accuracy of FB using this technique (95%) was higher than with conventional approaches in a historical control (58%). One study examined CT-guided TBBx in nine patients (Wagner et al. Respiration 1996; 63:181). Although it is more difficult than the traditional TBBx, CT fluoroscopy has been used to guide TBBx for nodes, as well as for nodules or focal infiltrates (White et al. Chest 2000; 118:1630). The mean diameter of the lesions was 2.2 cm. The overall accuracy was 83%. A specific diagnosis was obtained in 58% of lesions. A study combining use of the ultrathin bronchoscope with CT guidance for the diagnosis of peripheral lesions (mean diameter 1.4 x 1.1 cm) reported a diagnostic rate of 78.3% (Ashano et al. Am J Respir Crit Care Med 2002; 165:1111).

Electromagnetic Navigation Bronchoscopy
The first human study using real-time electromagnetic navigation bronchoscopy (ENB) for the diagnosis of peripheral lung masses (including SPNs) was recently reported (Schwarz et al. Chest 2006; 129:988). The lesion diameter ranged from 1.5 to 5 cm (mean 3.3 cm). The diagnostic sensitivity of the procedure was 69%. In a prospective study evaluating ENB for peripheral lung lesions and mediastinal lymph nodes, the mean size of the SPNs was 2.8 cm (Gildea et al. Eur Respir J 2003; 22:775). The diagnostic yield was 76% for SPNs, and the yield was independent of size or location. Many other sampling techniques have been used during bronchoscopy to improve its diagnostic yield for SPNs (Table). Many have been described in small studies and include the double-binged curette (Monti et al. Chest 1990; 97:304), the newly invented forecops with an angled tip (STAF) (Sasada et al. Chest 2006; 129:725), the needle-brush, and others. These techniques need to be validated in larger studies.

There is a prevailing consensus that bronchoscopy has no role for nodules < 2 cm in size. The data suggest, however, that FB can play a valuable role in the diagnosis of SPNs < 2 cm in diameter when one or more of the complementary techniques described here are utilized. The proposed lung cancer guidelines should be revised to include FB in the evaluation of lesions < 2 cm, especially when the risks involved with alternative procedures are considered higher than those with FB.

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**Impact of Complementary Tools on the Diagnostic Yield of FB Based on Lesion Size**

<table>
<thead>
<tr>
<th>Tool</th>
<th>Author, year</th>
<th>Lesion ≤ 2 cm, %</th>
<th>Lesion &gt; 2 cm, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAF*</td>
<td>Sasada et al. 2006</td>
<td>73.2</td>
<td>83.3</td>
</tr>
<tr>
<td>Curette</td>
<td>Mori et al. 1989</td>
<td>83.5</td>
<td>N/A</td>
</tr>
<tr>
<td>CT-guided TBNA</td>
<td>White et al. 2000</td>
<td>66.7</td>
<td>66.7</td>
</tr>
<tr>
<td>EBUS-TBBx</td>
<td>Kurimoto et al. 2004</td>
<td>72.8</td>
<td>82.6</td>
</tr>
<tr>
<td>EBUS-TBBx</td>
<td>Kikuchi et al. 2004</td>
<td>53.3 (≤ 2cm)</td>
<td>66.7 (2-3 cm)</td>
</tr>
<tr>
<td>EBUS-TBBx</td>
<td>Paone et al. 2005</td>
<td>71</td>
<td>82.8 (≥ 3 cm)</td>
</tr>
<tr>
<td>EBUS-TBBx/VB</td>
<td>Asahina et al. 2005</td>
<td>44.4 (≤ 2 cm)</td>
<td>91.7 (2-3 cm)</td>
</tr>
<tr>
<td>ENB</td>
<td>Schwarz et al. 2006</td>
<td>50</td>
<td>72.7</td>
</tr>
</tbody>
</table>

**STAF**: Sasada transbronchial angled forceps.

**Editorial Comment**

The underlying problem with SPNs is that they may be benign or malignant and one would like to limit diagnostic invasiveness for benign lesions. Thoracotomy provides the most accurate diagnosis, but at a cost of considerable invasiveness. Most less invasive techniques have lower yields, particularly for smaller lesions. Interestingly, three techniques described in this Perspective, electromagnetic navigation bronchoscopy, ultrasound biopsy, and the arterial CT reconstruction with curettage and on site cytology, show promise in achieving good yields independent of lesion size. The interpretation of many studies to date has been confounded by varying definitions of SPNs with respect to lesion size, mixing of SPNs and mass lesions, and varying populations with respect to risk of cancer. Future studies will need to address these issues.

For now, the choice of observation or a particular diagnostic procedure remains a balance of physician suspicion, risk factors, lesion size, local expertise, and patient preference. As more studies emerge, these new techniques may alter that balance. In addition, we should not forget the value of a careful bronchoscopic airway examination in the detection of second, unsuspected lesions. —Editor
Sleep Institute
American College of Chest Physicians

SLEEP STRATEGIES
Improving the Assessment for Obstructive Sleep Apnea in Commercial Driver’s License Holders

Obstructive sleep apnea (OSA) is associated with an increased number of at-fault motor vehicle accidents. It has also been shown that accidents occur at rates of >5 events per hour. Additionally, CDL holders operate vehicles that are typically large, carry toxic or dangerous chemicals, or carry a large number of passengers, which means they need to be held to an even higher standard than that of a regular driver’s license holder. However, despite this, these drivers often have economic incentives to drive long distances or in unsafe conditions.

The guideline for assessment of OSA in CDL holders has not been updated in almost a decade. The urgent need to re-evaluate this area came to light in early 2005, and the National Sleep Foundation, along with the American College of Chest Physicians Sleep Institute (ACCP-SI), and the American College of Occupational and Environmental Medicine (ACOEM) decided to tackle this important issue.

The tri-society task force was developed, led by Dr. Natalie Hartenbaum, MPH, FAOCOPM, from the ACOEM, Dr. Barbara Phillips, MPH, FCCP, from the NSF, and Dr. Nancy Collop, FCCP, and Dr. Ilene Rosen, MSCE, FCCP from the ACCP-SI. An initial meeting with these representatives, plus others from the ACOEM and NSF, was held at NSF headquarters in the summer of 2003. A working plan was developed, and background material was gathered.

The next step was to review the literature in this area, which included not only current regulations, guidelines, and standards already in place but also the guidelines for other countries and pertinent medical literature, including assessment, diagnosis, treatment, and follow-up for OSA.

Following the literature review, a consensus-type conference was held in the spring of 2006 under the guidance of Dr. Mark Rosekind. Attendees to this conference included sleep medicine professionals, occupational medicine professionals, and representatives from all three organizations.

A blueprint was developed for the recommendations, and following the meeting, writing assignments were given to several participants, in addition to the experts in the fields of occupational and sleep medicine. The process was coordinated by Dr. Hartenbaum, and a draft product was sent out for review in the summer of 2006. The final product was sent to the Journal of Occupational and Environmental Medicine, which published the entire article in their September 2006 issue, along with an executive summary, which was also published in CHEST in the September 2006 issue, with an accompanying editorial.

It is important to point out that these recommendations have not been adopted at this time by any government agency and are only those of the task force. Because several of the areas covered had relatively weak evidence to guide us, expert opinion was used. This guideline sought to make recommendations on screening, diagnosis, treatment, follow-up, and return to work. It is possible that these recommendations could be extended to other safety-sensitive positions, as well.

The current Federal Motor Carrier Safety Administration (FMCSA) does include a question on its medical examination report for Commercial Driver Fitness Determination, which queries whether the driver has “sleep disorders, pauses in breathing while asleep, day time sleepiness, or loud snoring.” If the elevated Epworth sleepiness scale (ESS) score, or a prior OSA diagnosis with mild-to-moderate elevation in AHI (5 to 30) that has not been treated or had compliance with therapy monitored. Out-of-service evaluation requirements would include a sleepiness- or fatigue-related accident or greatly elevated ESS score (>16) and prior diagnosis of severe OSA (AHI >30) with adequate follow-up.

There is little written about the diagnostic aspect of OSA in prior federal guidelines. CDL drivers are expected to undergo evaluations biannually, and a report written by the Federal Highway Administration in 1991 suggested that polysomnography should be used to make the diagnosis. The task force recommendations regarding diagnosis of OSA explicitly state that the diagnosis should be determined by a physician and confirmed by polysomnography, baseline polysomnography is preferred, however, and split-night polysomnography is acceptable if severe OSA is documented.

Regarding treatment, the 1991 report recommended continuous positive airway pressure (CPAP) as treatment but offered no guidance as to what was considered successful treatment. Little information was available about surgery or weight loss as options, and no data were available regarding dental appliances. The task force has addressed all these aspects in their recommendations. CPAP is considered the first line of treatment, and devices should be used that can measure adherence to therapy. Surgery, weight loss, and dental appliances are also addressed. The task force stated that a minimum acceptable average use of CPAP is 4 h every 24 h.

Another issue addressed was how long to wait before returning to work once a diagnosis of OSA is made and treatment initiated. This is extremely important to the driver and his company. Prior guidelines stated that drivers should not return to work for a minimum of a month. The task force guidelines suggest that, ideally, the AHI should be reduced to <10 (<5 is preferable) with the CPAP titration, the driver should be contacted by medical personnel within a week of starting CPAP, and adherence to therapy should be checked 2 to 4 weeks after the initiation of CPAP. Unlike the recommendations of the Federal Aviation Administration, the task force did not recommend a multiple sleep latency test or maintenance of wakefulness test (which the Federal Aviation Administration uses) to re-evaluate objective sleepiness, because there are no data available to suggest that this correlates with fitness to drive (or fly, for that matter).


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References

These documents will give medical examiners and health-care practitioners better guidance on how to deal with OSA. Medical examiner obtains a positive answer to this or "detects a respiratory dysfunction that in any way is likely to interfere with the driver’s ability." He is instructed to refer the driver to a specialist for further evaluation. Currently, this is the only guidance available regarding screening for OSA in CDL holders.

The recommendations by the task force are more specific and give the medical examiner guidance on when drivers are medically qualified to drive, when they should be able to remain in service but undergo an evaluation for OSA (in-service evaluation), or when they should be taken out of service while undergoing an evaluation (out-of-service evaluation). In-service evaluation categories include symptoms of sleepiness, body mass index, neck circumference, presence of hypertension, an...
This Month in CHEST: Editor’s Picks

BY DR. RICHARD S. IRWIN, FCCP
Editor in Chief, CHEST

► A 30-Year-Old Man With a History of Polysubstance Abuse and Hepatitis C Presents With Exertional Dyspnea and Patchy Ground-Glass Opacities. Dr. Francis Girvin and Dr. Ioannis Vlahos

► Cellular vs Fibrosing Interstitial Pneumonias and Prognosis: A Practical Classification of the Idiopathic Interstitial Pneumonias and Pathologically/Radiologically Similar Conditions. Dr. Andrew Churg and Dr. Nestor L Müller

► Changing the Work Environment in ICUs To Achieve Patient-Focused Care: The Time Has Come. Dr. Kathleen McCauley and Dr. Richard S. Irwin, FCCP


► Development of a Contemporary Bleeding Risk Model for Elderly Warfarin Recipients. Dr. Theresa I. Shireman, et al

► Tracheal Replacement by Allogenic Aorta in the Pig. Dr. Sophie Jaillard, et al

www.chestjournal.org

Ambassadors Group Welcomes Cindy Johnson as New Chair

It is with great pleasure that The CHEST Foundation announces that Cindy Johnson, wife of Dr. Robert G. Johnson, FCCP, President of The CHEST Foundation, is the Ambassadors Group Chair for 2006-2007. This is a reprise for Cindy, as she was part of the original planning group that created the Ambassadors in 2001, and she served as its first Chair when her husband was ACCP President in 2000-2001.

Cindy is wonderfully committed to family and community work. Many of her volunteer hours revolve around her children’s activities and educational institutions. She is presently President of the Saint Louis University Hospital Auxiliary and Director on the board of St. Michael’s School.

As Chair of the Ambassadors Group for 2006-2007, her objectives are to increase membership and promote the excellent programs and projects already developed. These include the Stories at the End of Life, the healthy lungs education programs, the Love Your Lungs™ wristbands, and the new CD, “Make the Choice: Tobacco or Health?”

Cindy values the Ambassadors Group as a link between the ACCP’s professional members and their families. As such, the Ambassadors Group complements and expands the role of the ACCP in society. The Ambassadors give spouses, family members, and friends of ACCP members an opportunity to act upon their shared commitment to tobacco prevention, clinical research, humanitarian service, and critical care. She takes pride in the Ambassadors Group’s volunteer efforts on behalf of ACCP members and The CHEST Foundation. She looks eagerly toward the productive year ahead.

CINDY JOHNSON

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www.chestnet.org/education/calendar.php

(800) 343-2227 or (847) 498-1400
ACCP Worldwide
ACCP Exhibit at ERS a Popular Spot

By Rich Waters
Vice President, ACCP Marketing Division

The annual European Respiratory Society (ERS) meeting provides an excellent opportunity for the ACCP to meet and service current and prospective members. Sixteen percent of ACCP members live outside of the United States and Canada, and many attend the ERS meeting and greatly appreciate the ACCP presence. In September, the ACCP exhibit hall booth at ERS, staffed by ACCP associates and leadership, provided a friendly full-service “way station” for members. The booth was busy, at times overflowing, with members who met with other members and colleagues and ACCP leadership. Many renewed their membership and learned about new ACCP products and benefits. A large variety of ACCP products and programs were displayed and promoted. Sales of the ACCP education products were brisk, with the pulmonary, critical care, and sleep syllabus books and CDs being the most popular items.

The new international ACCP e-member program was enthusiastically received. Available in all countries outside of the United States and Canada, it offers the same benefits as traditional membership but at a lower cost. All publications, including CHEST, are provided electronically. Membership prices are very affordable and vary by country based on the World Bank’s country classification system. Thirty-three new members registered during the meeting, in addition to 25 renewals—a new record high. Special congratulations to Dr. Sanjeev Kumar Mehta, FCCP, Governor, West Region, India, for personally recruiting, in addition to 25 renewals—a new record high. Special congratulations to Dr. Sanjeev Kumar Mehta, FCCP, Governor, West Region, India, for personally recruiting, and sponsoring seven new members during the meeting.

Watch for the ACCP traveling exhibit booth at your educational events. It provides an excellent opportunity to learn more about the ACCP and to meet and share your thoughts and ideas.

ERS Perspectives

“This participation in the major chest meetings around the world provides the leadership of the respective societies an opportunity to interact with their counterparts. The world is becoming smaller by the day, and this level of interaction and cooperation allows leaders to learn from each other.”

Dr. W. Michael Alberts, FCCP
Immediate Past President, ACCP

“This meeting has become one of the major pulmonary disease congresses of the year and reflects the increasing development of pulmonary medicine in the European area.”

Dr. Gerald L. Baum, FCCP
Attendee

World Asthma Meeting (WAM) 2007

June 22-25, 2007
Istanbul, Turkey

The theme of WAM 2007 is “Bridging Various Aspects of Asthma.” Professor Elif Dagli, Chair of the WAM Committee, notes, “The WAM Committee wished to discuss regional perspectives of asthma in a city on two different continents, historically and geographically connecting Northern Africa, Middle East, Central Asia, and East Europe.” Please come and let yourself be spoiled with the famous Turkish hospitality. The scientific program will include postgraduate courses, keynote lectures, plenary sessions, symposia, and hot topic sessions on obesity and asthma; severity vs control; new insights in immunopathogenesis; and safety of LABAs. The ACCP serves on the WAM 2007 Committee, and ACCP members will be participating in the program. More information is available at www.wam2007.org.

ACCP Workshop Targets Often Undetected Problem in COPD

Anxiety and depression, common comorbidities in patients with COPD, often remain undiagnosed and untreated. To address these issues, the ACCP as a Clinical Pulmonary Medicine NetWork project, hosted “Detection and Management of Depression and Anxiety in COPD—A Multidisciplinary Scientific Workshop” on September 15 and 16. The workshop was sponsored by a National Institute of Mental Health grant, with additional support from the Alpha-1 Foundation and COPD Foundation. Attendees and faculty represented several societies and stakeholders involved in this issue.

The workshop featured presentations by a multidisciplinary faculty and focused on the prevalence of these comorbidities in the COPD population, approaches to screening and diagnosis, and evaluation of the current knowledge for a variety of management models. Speakers, including patients, also addressed barriers to identification and management of anxiety/depression in culturally diverse populations and the impact of anxiety/depression screening and management on public policy.

In addition to the formal presentations, breakout sessions afforded the participants opportunities to discuss and make several recommendations for improved detection and management of anxiety and depression as a means of improving quality of life for COPD patients and for future research in this area. Publication of the proceedings and recommendations from this workshop is planned.

Missed a Session at CHEST 2006?

CHEST 2006 sessions will be made available in a variety of formats that include audio reproductions of LIVE lectures. Faculty handouts are included for select presentations (as released by faculty for inclusion).

For more information, or to order your audio recordings now, call (800) 343-2227 (US) or (847) 498-1400 (outside of US).

(All sessions will be offered in prepackaged bundles by clinical topic.)

Content Management
The American College of Chest Physician’s (ACCP) Health and Science Policy (HSP) Committee is charged with ensuring that all evidence-based clinical practice guidelines published by the College are current and up to date. There is a formal review process, which guarantees our members are accessing current and timely clinical recommendations in health, science, and clinical policy in chest medicine.

The HSP Guidelines Subcommittee completes an annual review of all guidelines and determines if a guideline remains current, if there are new studies available that may warrant an update or partial update, or if the guideline needs retirement.

The lead author/editor of the guideline, the HSP Committee liaison to the guideline panel, and relevant NetWorks with knowledge of this clinical topic, are asked for their expert opinion on the status of the guideline relative to the current service.

These individuals make a recommendation to the HSP Committee as to whether the guideline should be reaffirmed, revised, or retired, using one of the five rankings:

- The guideline is current as is and should be reviewed in 1 year.
- New evidence is available that may be useful; however, a revision is not mandatory at this time, and the guideline should be reviewed in 1 year.
- There is new evidence available that warrants revision of the following section(s)/chapter(s) of this guideline.
- There is sufficient new evidence available to warrant a complete revision of this guideline.
- This guideline is not current and should be retired.

If revision is recommended, current and relevant references are provided. At the ACCP’s annual CHEST meeting, the HSP Committee convenes and discusses the status of all guidelines using this information and appropriately classifies each document into one of the four categories: (1) new evidence has been published, but it does not warrant an update (readers are encouraged to search the current literature as a supplement to using this guideline); (2) new evidence has been published that would warrant an update; (3) the guideline is up to date and no changes are necessary; or (4) the guideline is outdated, and retirement is necessary (guideline is removed from the Web site).

Important consideration is given to supplements (multichapter guidelines) when updating only a single chapter. This can pose a problem because the grading system used initially has currently been updated, and updating only portions of the guideline could result in inconsistency in terms of the way the recommendations are graded (strength and level of evidence). It also causes complications when the entire guideline is updated in the future, which is why the HSP Committee steers away from single chapter updates. In certain cases, the HSP Committee allows updates using the former grading system, as in the case of the Diagnosis and Management of Pulmonary Arterial Hypertension guideline, which is currently in process.

The guidelines currently being reviewed this year at CHEST 2006 include the following: Prevention and Management of Postoperative Atrial Fibrillation After Cardiac Surgery, Weaning and Discontinuing Ventilator Support, Assessment of Diagnostic Tests for Ventilator-Associated Pneumonia, Device Selection and Outcomes of Aerosol Therapy, and Medical and Surgical Treatment of Paraneoplastic Effusions. Please visit the HSP Web site at www.chestnet.org/education/guidelines for more information.

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Program at a Glance

Mini-Satellite Symposium—Restless Legs Syndrome

Ballyband for CHEST final program

Pop-up Post-it Dispenser on CHEST final program cover

Promotional banners

American Association of Chest Physicians of Indian Origin Reunion

Friends of the College

Continued on following page

Practice Management Update


The brochure discusses the relationship between Medicare beneficiaries who have limited income and possible resources from their state Medicaid program to help pay for their out-of-pocket medical and prescription expenses. For such persons who are eligible for full Medicaid coverage, the Medicaid program supplements Medicare coverage by providing services and supplies that are available under their state’s Medicaid program.

How We Keep Evidence-Based Guidelines Up to Date

The ACCP and The CHEST Foundation are proud to recognize the following “Friends of the College” for their financial support of College activities during 2006. We would also like to thank the ACCP Industry Advisory Council for their continued commitment to work with the College on community service projects and other initiatives of mutual importance.

(Note: this list reflects support received by the date of publication.)

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ACCP Pulmonary Board Review Course Syllabus

CHEST 2006 educational session

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Satellite Symposium—A New View of COPD: Treating Beyond the Symptoms

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The HSP GUIDELINES SUBCOMMITTEE COMPLETES AN ANNUAL REVIEW OF ALL GUIDELINES AND DETERMINES IF A GUIDELINE REMAINS CURRENT.

THE HSP GUIDELINES SUBCOMMITTEE COMPLETES AN ANNUAL REVIEW OF ALL GUIDELINES AND DETERMINES IF A GUIDELINE REMAINS CURRENT.
In ICU, Risks of Tight Glucose Control May Outweigh Benefits

BY MICHELE G. SULLIVAN
Elsevier Global Medical News

Barcelona — The benefits of tight glucose control with intensive insulin therapy may not be worth the risk of hypoglycemia for critically ill patients, Dr. Jean Charles Preiser said at the annual congress of the European Society of Intensive Care Medicine.

Although the overall risk of death was not significantly increased among such patients, the European GluControl study did find a significant increase in the risk of death among those who had at least one episode of severe hypoglycemia, said Dr. Preiser of the Centre Hospitalier Universitaire de Liège, Belgium.

The trial needed 3,500 patients to confirm the 4% decrease in mortality reported in a similar 2001 study (N. Engl. J. Med. 2001;345:1359-67). However, GluControl was halted in March 2006 because of a trend toward higher mortality in the experimental group and many unintended protocol violations.

Dr. Preiser presented an analysis of the 1,091 ICU patients randomized to either tight glucose control (80-100 mg/dL) or conventional control (140-180 mg/dL). Their mean age was 65 years. The mean Apache II score was 20, and the mean Sepsis-Related Organ Failure Assessment (SOFA) score was 7. The mean ICU stay was 5 days. Diabetes was more prevalent in the conventional group (24% vs. 16%), but most patients were not insulin dependent.

The mean glycemic level achieved in the tight control group was 118 mg/dL—higher than the upper limit allowed in the study protocol. In the conventional group, the mean glycemic level was 144 mg/dL.

In all, 97% of the tight control group received insulin, compared with 67% of the conventional group. Severe hypoglycemia (less than 40 mg/dL) was more common in the tight control than in the conventional group (10% vs. 3%).

ICU mortality was not significantly different between the groups (12% tight control vs. 9.75% conventional control). But the difference became significant when the groups were subdivided into those who experienced at least one episode of severe hypoglycemia and those who did not (18% vs. 11.6%).

After correcting for other risk factors (age, Apache II scores, and SOFA scores), patients in the tight control group had a nonsignificant increase in their risk of death.

ICUs With MRSA Patients Put Subsequent Occupants at Risk

BY MARY ANN MOON
Elsevier Global Medical News

Patients admitted to ICU rooms previously occupied by patients infected with methicillin-resistant Staphylococcus aureus or vancomycin-resistant enterococci are at elevated risk of acquiring those infections, reported Dr. Susan S. Huang of Brigham and Women’s Hospital, Boston, and her associates.

The researchers reviewed the records of patients admitted to eight ICU rooms at Brigham during 2003-2005. All the ICUs had a 10-bed capacity, and they included medical, cardiac, and general surgery units. A total of 7,629 patients (10,151 ICU room admissions) were identified.

Of the 59 exposed room stays, the researchers found 7,806 (10,349 ICU room admissions) were identified during the study period and translated to a 1.8% excess risk represented 5.1% of all ICU MRSA acquisition during the study period and translated to a 1.1% population attributable risk among the exposed, or 1 in 94 exposed room stays,” Dr. Huang and her associates said (Arch. Intern. Med. 2006;166:1945-51).

Similarly, patients who stayed in a room previously occupied by a VRE carrier had a 4.6% risk of acquiring VRE, higher than the 2.8% risk of patients who stayed in a room previously occupied by a noncarrier. “This 1.8% excess risk represented 6.8% of all ICU VRE acquisition during the study period and translated to a 1.7% population attributable risk among the exposed, or 1 in 59 exposed room stays,” they said.

The excess risk occurred despite the hospital’s room cleaning procedures at discharge, which exceed CDC and Healthcare Infection Control Practices Advisory Committee 2003 national guidelines.

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CPAP Withdrawal Altered Brain Function in Sleep Apnea

Montreal — Sleep apnea patients receiving continuous positive airway pressure therapy have changes in brain function that can be seen with functional magnetic resonance imaging when the therapy is withdrawn for just two consecutive nights.

“[The brains of these patients] must work harder, and possibly in less efficient ways, to perform at the same level (as when they are on the therapy),” said Mark S. Aloia, Ph.D., who reported the findings at the 8th World Congress on Sleep Apnea.

His study included eight subjects with moderate to severe sleep apnea who were compliant with continuous positive airway pressure (CPAP) therapy. The subjects were asked to complete a cognitive function test called the N-back test while undergoing functional magnetic resonance imaging (fMRI) of their brains. The testing was performed both when patients were compliant with CPAP (at least 2 consecutive nights) and when the therapy had been withdrawn for 2 consecutive nights.

While subjects performed similarly both on and off CPAP therapy (because of extensive task training), the fMRI showed significant differences in which regions of their brains were activated in the presence or absence of CPAP, said Dr. Aloia, who is director of sleep research at National Jewish Medical and Research Center in Denver.

Specifically, there was a significantly greater activation of the right middle frontal gyrus and a trend toward greater activation of the right inferior parietal regions when CPAP was withdrawn. In contrast, when patients had been treated with CPAP, there was significantly more activation of the right middle frontal gyrus. The findings lend support to the hypothesis that untreated sleep apnea creates an inefficiency in brain function, Dr. Aloia said.

“There seems to be a compensatory response of the brain off CPAP such that subjects are using more brain resources to perform at the same level,” he said in an interview.

Red areas in MRI images represent extra activity, possibly compensatory in nature, when CPAP is removed. Blue areas represent recovery with CPAP treatment.
Vaccines that reduce children’s risk of respiratory tract infections and antibiotic therapies to treat the resulting infections are common approaches to the management of respiratory tract infections in children. However, the management of respiratory tract infections in children remains challenging due to the frequent emergence of antibiotic-resistant bacteria and the varying effectiveness of influenza vaccines. This review summarizes the recent clinical trials with a focus on the efficacy of intranasal cold-inactivated influenza vaccine (CAIV-T) in children and the role of different antibiotics in the management of respiratory tract infections in children.

Intranasal Cold-inactivated Influenza Vaccine (CAIV-T)

Intranasal cold-inactivated influenza vaccine (CAIV-T) is a live, cold-inactivated influenza vaccine that is administered intranasally. It has been shown to be effective in preventing respiratory tract infections in children and has a safety profile similar to other influenza vaccines. The vaccine is administered by a spray into the nostrils, and it contains inactivated influenza A and B antigens. Several clinical trials have demonstrated the effectiveness of CAIV-T in preventing respiratory tract infections in children, including those with asthma and respiratory infections.

Antibiotics in the Management of Respiratory Tract Infections in Children

Antibiotics are commonly used in the management of respiratory tract infections in children. However, the appropriate use of antibiotics is crucial to prevent the emergence of antibiotic-resistant bacteria. Commonly used antibiotics for respiratory tract infections in children include penicillins, cephalosporins, and macrolides. The choice of antibiotic depends on the specific organism responsible for the infection and the patient’s medical history.

Conclusion

In summary, the use of intranasal cold-inactivated influenza vaccine (CAIV-T) and appropriate antibiotic therapies are important strategies in the management of respiratory tract infections in children. Future research is needed to further evaluate the effectiveness and safety of these interventions.

References