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Opinion/Editorial

The Role of Ultrasonographic Imaging Analysis during EBUS-TBNA

Advances in radiographic imaging and endoscopic and ultrasonographic technologies have increased our ability to accurately diagnose and stage patients with lung cancer. During non-invasive lymph node staging via radiographic imaging, short-axis diameter > 1cm on CT and increased FDG uptake on PET scan are most widely accepted criterion to define lymph nodes suspicious for malignancy. However, tissue sampling should be performed on these abnormal lymph nodes prior to defining their treatment pathway. Endobronchial ultrasound guided transbronchial needle aspiration (EBUS-TBNA) has emerged as a minimally invasive modality for sampling of mediastinal and hilar lymph nodes. EBUS-TBNA has a high diagnostic yield and is now considered the test of first choice for sampling of accessible mediastinal lymph nodes suspicious for malignancy (1).

Radiographic imaging information of abnormal lymph node is invaluable prior to EBUS-TBNA, since it will guide bronchoscopists for the actual sampling of lymph nodes. During ultrasound evaluation of mediastinal and hilar lymph nodes using the convex probe EBUS, detailed imaging characteristics can be obtained. For some parts of the mediastinum, EBUS may allow better visualization of the lymph node. In addition, multiple lymph nodes can sometimes be visualized at a specific lymph node station. Thus, pretest radiographic imaging information alone may not accurately guide bronchoscopists to select the target for EBUS-TBNA. There have been several studies looking at the role of ultrasonographic features of lymph nodes during EBUS to predict malignancy or benignity prior to actual biopsy of the lymph nodes.

One of the earliest and largest series to date using the regular B-mode reported on a standardized classification system to define ultrasound features of lymph nodes during lung cancer lymph node staging (2). The US features included size, shape (oval or round), margin (indistinct or distinct), echogenicity (homogeneous or heterogeneous), presence of central hilar structure, and presence of central necrosis sign. Their study revealed that round shape, distinct margin, heterogeneous echogenicity, and presence of central necrosis sign were independently predictive of malignancy. On the other hand, when all four features were absent, 96% of the lymph nodes were benign. Other studies have assessed this classification system with slightly conflicting results (3, 4). Doppler US features of vascular image patterns within lymph nodes have also been assessed for prediction of metastases (5).

Despite multiple studies looking into the role of US image analysis during EBUS-TBNA, there is no strong evidence to avoid biopsy to confirm malignancy in suspicious lymph nodes. However, careful interpretation of US images during B-mode and Doppler-mode examination may allow bronchoscopists to selectively sample key lymph node stations as well as identify individual lymph nodes within the same lymph node station. New US imaging analysis such as elastography may further assist us during EBUS-TBNA (6), however development of new technologies to enable automated objective evaluation of lymph nodes is warranted.

Editor in Chief
Kazuhiro Yasufuku

References

1. Silvestri GA et al. Chest. 2013; 143; e211s-e250s.
2. Fujiwara T et al. Chest. 2010; 138: 641-7.
3. Garcia-Olive I et al. Ultrasound Med Biol. 2009; 35: 1271-7.
4. Memoli JS et al. Chest 2011; 140: 1550-6.
5. Nakajima T et al. J Thorac Oncol. 2012; 7: 1009-14.
6. Izumo T et al. Jpn J Clin Oncol. 2014; 44: 956-62.

Technology Corner

Confocal Endoscopy: Airway Applications

Introduction: New bronchoscopic optical technologies are being developed because conventional white light bronchoscopy, even in its newer higher magnification mode, is not useful for detecting changes that are below the tissue surface. The future of flexible bronchoscopy is in optical diagnostics that go beyond gross mucosal visualization to obtain information about tissue structures. In general, technologies with good depth of penetration have low resolution and cover large areas, while those with high resolution, have a very shallow depth of penetration and cover very small areas. For instance, the resolution of clinical ultrasound is typically 0.1-1mm and depends on the sound wave frequency (3-40 MHz) used for imaging. The optical coherence tomography (OCT) resolution is 1-15 microns and imaging depth is 2-3 mm (limited because of the high scattering by most tissues). Contrary to OCT and high-resolution balloon based-radial endobronchial ultrasonography (REBUS), confocal microscopy (CFM) has a small interrogation area and smaller penetration depth, but higher resolution.

Background: Confocal endoscopy is a relatively new optical diagnostic technology that is based on CFM principles, which provide a clear image of a thin section within a biological sample. This technology is also known as confocal fluorescence microscopy, where the microscope objective is replaced by optical fibers which conduct the light to the tissue and the tissue fluorescence back; this system analyses the spatial distribution of tissue fluorophores at the interface with the distal part of the optics (Figure 1). CFM is a non-radiating imaging modality that generates images to a depth of 100-200 micrometres using blue excitation light (440-500 nm). Two wavelengths are available: 488 (for autofluorescence) and 660 nm (for exogenous fluorophores). Respiratory probes are devoid of distal optics and have a depth of focus of 0-50 microns, lateral resolution of 3 microns for a field of view of 600X 600 microns with a scanning speed of 9-12 frames/second.

Clinical applications: The clinical application of confocal endoscopy demonstrated that this technology allows visualization of superficial layered airway microstructures (i.e. epithelium, basement membrane, lamina propria) and assessment of airway abnormalities not readily identified by white light bronchoscopy (1). CFM may detect structural alteration due to airway tumor invasion through the basement membrane. For in vivo imaging of the proximal bronchial wall, the probe is placed over the mucosa and, given the depth of focus is 50 microns at 488 nm, the basement membrane could be clearly visualized; the pattern is that of large fibers oriented along the longitudinal axis of the airway with cross linked small fibers and sometimes large openings of 100-200 microns are seen, corresponding to the openings of the mucosal glands. Since cellular changes in carcinoma in situ and dysplasia occur in less than 1mm in depth, CFM may provide sufficient optical information to distinguish benign from malignant lesions. In the pre-invasive bronchial lesions, the fibred pattern of the lamina reticularis is lost: visualized at 660 nm, epithelial layers can be seen with methylene blue. However, cells do not emit strong autofluorescence. Although the basement membrane and upper submucosa can be imaged with good quality, with the current commercially available technology, the epithelial cells are not visible. In addition, because contact with the bronchial surface is still required, the fragile epithelium can be scrapped off during the imaging procedure. Motion artifacts due to cardiac pulsation and respiratory movements can also lead to suboptimal imaging of cellular details. Differentiating malignant from benign pathology is difficult (2). In one study, the intra-class correlation coefficients 0.48-0.92 and intra-observer reliability were 0.69-0.91 suggesting that intra and inter-observer agreement for interpreting CFM images needs improvement (2).

In the smaller airways, while the smooth airway muscle and cartilage are not yet clearly visualized using currently available technology, recent studies show that CFM may have a role in identifying specific remodeling changes in asthma (3). The elastic fibers, which represent a major component of the extracellular matrix in the airway wall, can be seen with CFM. Their disruption can be identified with bronchoscopic CFM (3).

Probes that fit through a flexible bronchoscope's working channel or the EBUS –TBNA needles may allow detection of intranodal structures which may change the post test probability of malignancy or determine the nodal region of interest in regards to aspiration. This hypothesis is supported by data using CFM via esophageal ultrasound (4) (Figure 2).

Conclusions: CFM has the potential to become part of a multimodal technology platform for bronchoscopic imaging. Since the depth of penetration is limited, this technique will likely be appropriate in multimodality combination with technologies able to visualize the cartilage and its potential invasion (i. e. radial EBUS) and reveal alterations in the airway wall microstructures (i. e. OCT). Depending on the indication, the bronchoscopist may one day be able to switch between a surface imaging modality to one that will reveal the layered airway wall microstructures.

References:

1. Thiberville et al Am J Respir Crit Care Med 2007; 175:22-31
2. Filner J et al. J Bronchol Intervent Pulmonol 2011; 18:23-30
3. Yick et al. Respiratory Research 2011; 12: 85
4. Giovannini M. Endoscopic Ultrasound. 2013; 2: 1-2

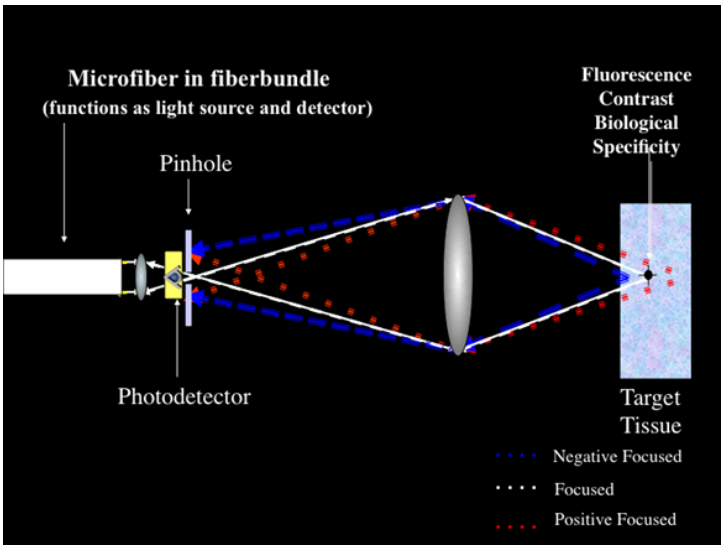

Figure 1: Principles of confocal endoscopy. The illumination and the detection systems are conjugated on the same plane (i.e. confocal). Fluorescence from the tissue is captured by an objective lens and directed toward a pinhole aperture. The pinhole allows the emitted light from a narrow focal plane to pass to the detector, while blocking most of the out-of-focus light (far sighted and near sighted). In its fluorescence mode, the technique of fibered confocal fluorescence microscopy (FCFM), makes it possible to obtain high-resolution images from endogenous or exogenous tissue fluorophores, through a fiberoptic probe that can be introduced into the working channel of a flexible bronchoscope.

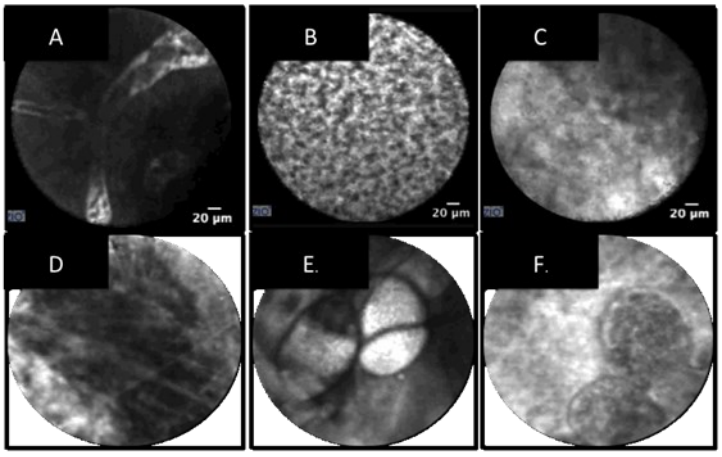

Figure 2: Confocal microscopy images obtained prior to EUS-FNA from lymph nodes. A. Blood vessel; B. Reticular pattern in a normal lymph node. C. Disorganized architecture in a malignant lymph node. D. Lymph node capsule. E. Fat cells. F. Intranodal macrophages. Pictures are courtesy of Dr. Marc Giovanni, Head of Endoscopic Unit, Paoli-Calmettes Institute, Marseille, France. All images were captured using the Cellvizio system.

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Management of Iatrogenic Tracheal Injuries

Introduction

Tracheal injury represents a rare but potentially life-threatening complication of intubation with a reported incidence from 0.05% to 0.37% (1). Iatrogenic tracheal injuries (ITI) differ from external or blunt tracheal trauma, which usually leads to the rupture of the trachea close to the carina and the main bronchi with sharp and irregular wound boundaries. ITI usually causes longitudinal tears of the posterior tracheal wall or at the junction of cartilage and the posterior membrane and it rarely extends to the main bronchi. Iatrogenic rupture of trachea may occur after endotracheal intubation or percutaneous tracheostomy. The diagnosis of ITI requires a high index of suspicion and is often missed or delayed. About 15% of ITIs are identified at post-mortem (2). ITI should be suspected in cases of subcutaneous or mediastinal emphysema, pneumothorax or progressive respiratory insufficiency. Special attention should be paid to difficult or traumatic intubation and complicated tracheostomies. Chest X-ray is often used as the first diagnostic modality in suspected cases but it does not exclude the diagnosis of ITI. CT scan demonstrates a higher sensitivity (85%) for complications such as the tracheal rupture (3). Direct examination with bronchoscopy is the gold standard for the diagnosis. It allows the precise localization, severity and extension of the ITI into the surrounding structures such as esophagus.

Management

1- In the Literature

The management of ITI remains controversial. Some authors propose surgical management for ruptures longer than 1 or 2 cm (4). Griffo et al proposed a conservative or aggressive management of the ITI depending on the length of lesion and the clinical condition of the patients (need for mechanical ventilation: MV) (5). They recommend conservative management in clinically stable patients without mechanical ventilation and non-expanding lesions. Surgical management is advocated in ventilator dependent patients with enlarging lesions. In a series of 18 patients, Gomez-Caro et al managed 17 (94.4%) patients conservatively without using length as a criterion (6). In this series, majority of the lesions were less than 4 cm. The timing of the surgical intervention in the course of management of ITI remains controversial with some authors favoring surgery as the primary option (4), and others only in case of failure of the conservative treatment (6). Surgery is not free of complications. Hoffman et al in a series of 19 patients described postoperative mortality at 42% in 18 patients who were operated (7). In Marty-Ane series of 6 patients, 5 patients underwent surgery with mortality of 33% (8). Kaloud et al also reported a postoperative mortality of 25% in their case series of 12 patients (6). In a meta-analysis, surgical repair of ITI was performed in 61% of the patients and conservative management in 39% of the patients (1). An alternative to open surgery in ITI management is endoluminal surgical repair described in 4 patients by Welter et al. This less invasive technique has severe limitations including inability to suture tears close to the lateral wall or the main bronchi (9).

2 -In Our Center

We believe that the size of ITI is not a determining factor for choosing the optimal treatment and that size alone does not provide sufficient grounds for surgery as the immediate treatment.
Conservative management is offered to patients on mechanical ventilation and proximal tracheal injury by placing the endotracheal tube or the tracheostomy cannula distal to ITI. The proper positioning is achieved by endoscopic guidance. In patients with distal tracheal lesions on MV, conservative management strategies were employed by placing an endobronchial silicone Y stent to allow spontaneous healing of the lesions while maintaining MV (Fig 1). We do not recommend the use of double-lumen endotracheal tubes as its placement can worsen the existing tracheal tear and lead to complications. The stents are removed as soon as the patients are extubated or decannulated. In our experience, endoscopic surveillance offers the best outcomes in patients with spontaneous breathing (non-ventilated) that almost always showed spontaneous healing and appropriate scar formation. Time for ITI spontaneous healing is variable from 2 weeks up to 7 weeks. We think healing time is difficult to predict since a myriad of factors influence it including the depth and the length of the lesion, use of steroid, and immune and nutritional status of the patient. The first surveillance endoscopy is performed at 1 week and the second at one month if necessary.

Conclusion

In our center, surgical management of ITI concerns less than 10% of our patients. The presence of a tracheoesopaheal fistula (TEF) seems to be the most important factor in deciding between surgery and conservative management. The second most critical decision point in the management is the need to maintain MV. In the absence of TEF, the ITI location and the need for MV play a critical role in the decision to proceed with the conservative treatment. Surgical repair should be undertaken in case of TEF or when conservative management fails. Silicone "Y" stent placement for distal ITI is a valid and minimally invasive option. Based on the literature and our experience, we propose an algorithm (Fig 2) for the management of ITI.

References

1. Minambres et al. Eur J Cardiothorac Surg. 2009; 35: 1056-62.
2. Richardson JD. J Trauma 2004; 56: 30-6.
3. Chen JD et al. Am J Roentgenol. 2001; 176: 1273-80.
4. Kaloud H et al. Chest. 1997; 112: 774-8.
5. Griffo S et al. J Thorac Cardiovasc Surg. 2007; 133: 827-8.
6. Gomez-Caro Andres A et al. Ann Thorac Surg 2005; 79: 1872– 8.
7. Hofmann HS et al. Eur J Cardiothorac Surg. 2002; 2: 649–52.
8. Marty-Ane CH et al. Ann Thorac Surg. 1995; 60: 1367-71.
9. Welter S et al. Interact Cardiovasc Thorac Surg. 2011; 12: 6-9.

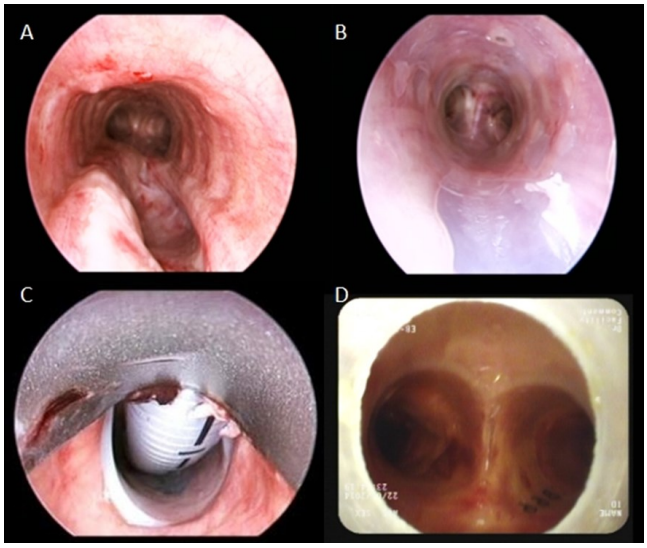

Figure 1: 7 cm posterior tracheal laceration in patient 4 who required mechanical ventilation (A). A silicone "Y" tracheobronchial stent was placed (B), a Bivona® tracheotomy cannula inside the tracheal part of the "Y" stent in the tracheobronchial tree (C). An endoscopic view from the distal end of the tracheostomy tube showing the lower part of the tracheobronchial "Y" stent covering the carina (D).

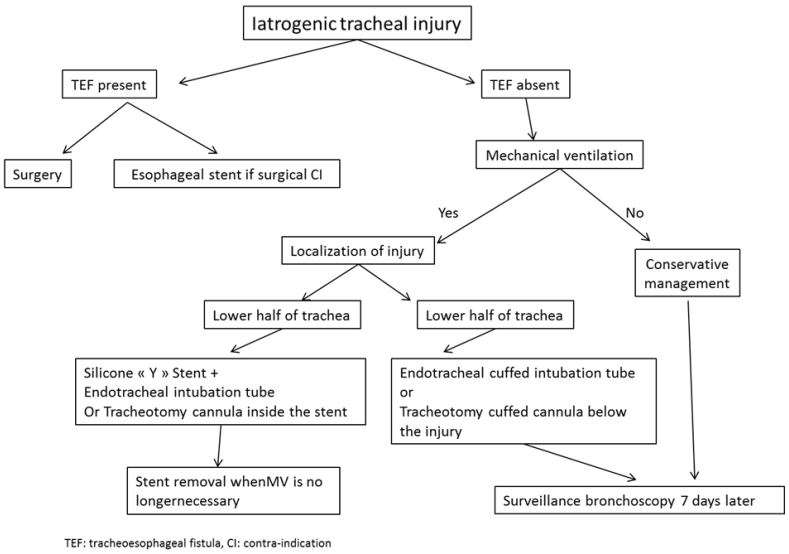

Figure 2: Algorithm

News of Humanitarian Activities

The *English Surgeon*, a 2007 documentary by Geoffrey Smith, highlights the humanitarian aid efforts of English neurosurgeon Henry Walsh, showcasing how one man can intervene to assist patients and an entire health care system in the Ukraine. The WABIP applauds the unselfish work of such individuals, and all those who work diligently to resist financial or social inequalities in order to create avenues so patients have greater access to health care and technology, and thus, make the world a better place.

In my opinion, the WABIP is fortunate that so many of its members have dedicated time, effort, and days away from work, family and friends to assist others in foreign countries. While such work is not necessarily self-endangering or gloriously laudable, it is important work that has contributed greatly to bronchoscopy practice and access to resources in many parts of the world. Bronchoscopy is not something commonly discussed around the dinner table or by pundits on television. It is practiced by a small subset of chest physician-specialists as well as by some thoracic surgeons, anesthesiologists, and otorhinolaryngologists. Its main indication is for the diagnosis of central airway abnormalities, but it has also proven to be extremely useful in the diagnosis of lung infections, including those caused by Tuberculosis and HIV/AIDS, and increasingly, in selected patients with benign airway disorders, pulmonary nodules, COPD, and asthma. The procedure can be life-saving in the critical care unit, emergency department, and operating room.

But in a world where 14% of the world's population is undernourished, 16% lack access to safe drinking water, and 40% (2.4 billion) lack access to basic sanitation, why would anyone care about bronchoscopy? Perhaps it is because access to health and health care was defined as a human right by the Pact of Social, Economical, and Cultural Rights (United Nations, 1966). Maybe it is because many of us espouse the Rawlsian philosophy (1971) of justice that also suggests that humanitarian actions of any sort be viewed as beneficence, and as doctors, helping people is what we do.

I believe that anyone who helps increase access to bronchoscopy is providing humanitarian action. This is accomplished through donations of time, equipment, knowledge, and money. It can be done by volunteering efforts to teach, or creating avenues for new technologies in countries or regions without the necessary equipment, personnel, or know-how to perform bronchoscopy competently and frequently. Of course, it is not always necessary to travel long distances to achieve such goals; sometimes, it is simply a matter of speaking truth to power, to advocate for a specific technology in the face of resistant hospital administrators more interested in the bottom line than in offering a procedure that has become state of practice (the obvious example of EBUS comes to mind in the diagnosis and treatment of patients with suspected or known lung cancer).

It is impossible to highlight each and every member of the WABIP who has contributed to the growth of bronchoscopy around the world today, but it would be nice, on occasion, to report the achievements of a few individuals in this Humanitarian News Section of the Newsletter. In part, of course, this is to encourage members to do more, but it is also to bring to the forefront the many activities of our growing organization, and the need for equipment donations, money, and ideas so that our philanthropic arm, the World Bronchology Foundation, can get a new start under its new leadership, providing access to bronchoscopy in countries in need.

Between 2010 and 2015, Dr. Ali Musani, one of the associate editors of this newsletter, and now Chief of Pulmonary and Critical Care at the Medical College of Wisconsin, dedicated his efforts to bronchoscopy education and practice in Pakistan. He conducted hands-on workshops and didactic lectures that were repeatedly broadcast to different hospital venues across the country, and he facilitated equipment donations or affordable purchases from manufacturers that helped make new bronchoscopic technologies available for patients in several large medical centers and teaching hospitals. As one physician leader told me "To this day, Ali continues to extend all his support unconditionally to our programs and we would definitely not be where we are today without his assistance."

Figure 2: Dr. Musani demonstrating EBUS

The WABIP represents the interests and activities of national and regional bronchology societies from around the world. As such, *The World* is growing smaller as our organization is growing larger. By helping each other, teaching, serving, caring, we can reach out to our patients in order to provide them with greater access to opportunities and health. Bronchoscopy may not yet be a household word, but we know it is important nonetheless. Join us to help bronchoscopists competently meet the needs of their patients regardless of where they live or work. That is a humanitarian action!

Figure 3: photo, Mongolia, courtesy H. Colt

**The views expressed in this article are those of the author and do not necessarily reflect the official positions of the Executive Board or International Board of Regents of the WABIP. Dr. Colt has consistently authored the Humanitarian, Education, and BOR News Section of the WABIP Newsletter and is Chair of the WABIP.*

Education and Training

ITEM 1: Bronchoscopy Education Project activity in Cluj, Romania

In May, 2015, Dr. Henri Colt, with certified instructors Dr. Nikos Koufos from Greece, and Dr. Zsolt Papai from Hungary, traveled to Cluj, Romania to assist certified instructor and program director Dr. Maria Simon (Cluj, Romania) with an *Introduction to Flexible Bronchoscopy Course* and *Faculty Development Program* (Train the Trainers) that included bronchoscopy opinion leaders from Macedonia, Serbia, and Slovania. Students listened to didactic lectures and participated in interactive discussions, as well as obtained step-by-step bronchoscopy training using a variety of inanimate models. Simulation scenarios, case-based discussions, checklists, and validated assessment tools were used to monitor progress and achieve competency. As one of the participants later wrote, "This was the most efficient training program I have ever attended, and the most interesting method to review, reinforce and discuss things that we do at work every single day!"

Figure 1 A: Dr. Maria Simon (seated on desk) working with a group of learners preparing a Practical Approach to bronchoscopy consultation exercise. **Figure 1 B**. Dr. Ales Rozman (from University Clinic, Glonik, Slovenia) instructing students in the fine technique of conventional TBNA (a new, specifically designed half-day program in cTBNA being currently prepared by instructors and faculty of Bronchoscopy International will be available soon).

Figure 2A: Dr, Maria Simon with Introduction to Flexible Bronchoscopy course participants, assisted by certified instructors Drs. Zsolt Papai and Nikos Koufos. **Figure 2B.** Instructors and participants in the Faculty Development Program conducted in Cluj, Romania included physician-leaders from Romania, Slovenia, Serbia, and Macedonia as well as course instructors from the United States, Romania, Greece, and Hungary.

Education and Training

ITEM 2: WABIP Academy Publications.

Work has begun designing and developing the ***WABIP Practice Recommendations for Flexible Bronchoscopy Manual***. This important publication will include chapters written by an international panel of experts, all using a similar template and chapter construction design. Under the leadership of Zsolt Papai (Vice-Chair, WABIP), the editors are Drs. Zsolt Papai (Hungary), George Eapen (USA), and Hojoong Kim (Treasurer, WABIP, Korea). If you are interested in participating in this important project, please contact one of the editors, or Michael Mendoza (General Manager, WABIP). The manual will be an important addition to the work of the WABIP Academy, and will address practice issues with a global relevance. **The WABIP Academy** is designed to assist practitioners and physicians in-training to achieve greater competency in all aspects of Bronchoscopy and Interventional Pulmonology, and to support the mission and vision of the World Association for Bronchology.

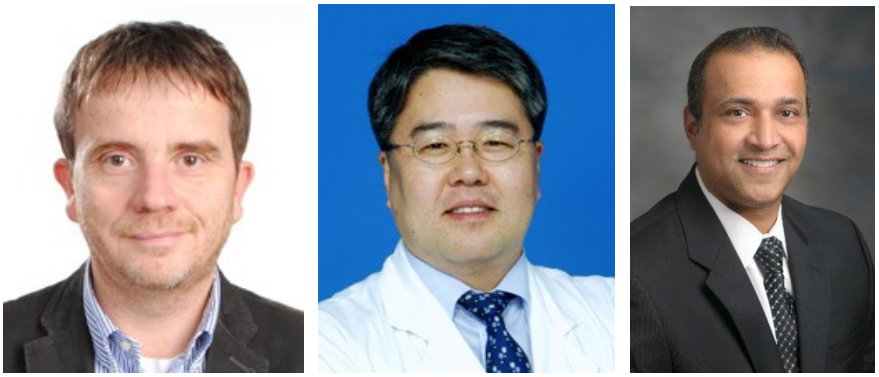

Figure 3: WABIP Practice Recommendations for Flexible Bronchoscopy: Drs. Zsolt Papai, Hojoong Kim, and George Eapen (Co-Editors)

Vision of the WABIP Academy: The Academy includes a variety of educational activities and assessment instruments designed to enhance knowledge and document commitment to advancing the art and science of Bronchology and Interventional Pulmonology. Contents will be organized into a standardized evidence and experience-based curriculum that provides a foundation of knowledge designed to grow as new topics and materials become available**.** Each WABIP Academy activity is led by a Section editor and team of Associate Section Editors who review materials, invite contributions of scientific content, and compose multiple-choice questions as part of an on-line assessment instrument that may be used for CME and EACME accreditation. ***The WABIP Manual of Practice Recommendations for Flexible Bronchoscopy*** will provide background information, indications, techniques, and controversies/points of view for procedures and disease process subjects. Each chapter will be limited to 2000 words to assure easy readability. Our goal is to make this manual available in print and digital form.

Figure 4: Screen shot of webcast page on the new WABIP Academy webpage at www.wabip.com

BOARD OF REGENTS NEWS

ITEM 1: The WABIP is pleased to announce that Dr. Silvia Quadrelli (Argentina) has been named Coordinator of the WABIP International Regents Global Activities Program. In addition to her academic degrees in Pulmonary Medicine, Medical Ethics, and Education, Dr. Quadrelli has been a lifelong humanitarian with yearly international professional commitments to Doctors of the World. She brings a vast experience of practicing medicine in different cultures and environments, as well as many leadership skills and internationally recognized achievements to this new effort in the WABIP. The goal of the WABIP International Regents Global Activities program is to increase communication between society members in order to develop greater educational opportunities for bronchoscopists around the world. Dr. Quadrelli's responsibilities include the coordination of various activities that promote Regent involvement around the world. A first meeting was held with WABIP Regents from Europe at the recent EABIP meeting in Barcelona (EABIP, France/GELF, Romania, Italy, Spain, Holland, Hungary, Russia, Greece, and Turkey). More meetings are scheduled in Thailand at the AsiaPacific Society meeting, in November and in Argentina at the Latin America regional meeting in September. Work has already begun on FIVE proposals:

- Creation of a "bronchoscopy around the world" column for the WABIP Newsletter and website. In this column, regents will describe the state of bronchoscopy in their region
- Development of a "bronchoscopy in the world" symposium that will become a regular part of each biennial WCBIP
- Creation of a WABIP International Regents Award designed by and chosen by the regents to recognize a particular regent whose regional activities have helped promote and implement the vision and mission of the WABIP
- A survey designed and implemented by the regents to study the state of bronchoscopy practice around the world.
- A special committee to study ways to increase collaborative efforts between WABIP and its member regional/national societies.

We thank Dr. Quadrelli for taking on this important task, and of course, if you are a regent, expect to hear from Silvia soon! If you are a WABIP member, you can expect to hear more from your Regent Representative in the very near future!

Figure 1: Dr Silvia Quadrelli, Buenos Aires, Argentina

ITEM 2: The WABIP welcomes two new member societies in our growing organization; The United Emirates (Emirates Bronchology and Interventional Pulmonology Society) under the leadership of Dr. Yaser Abu El Sameed (Cleveland Clinic, Abu Dhabi), and the Sudan (Sudanese Society for Bronchology and Interventional Pulmonology) under the leadership of Dr. Omer Elgaili Yousef Elhag (Secretary General of the Sudanese Chest Physician Society). The WABIP looks forward to growing membership in these regions of the world, and is honored by the membership of these two new societies!

Figure 2: Dr. Yaser Abu El Sameed (UAE), and Dr. Omer Elhag (Sudan)

BOARD OF REGENTS NEWS

ITEM 3: 19th WCBIP/WCBE in Florence, Italy from May 8-May 11, 2016.

Whether you are new to our society, or a veteran of our growing organization, Florence offers opportunities to renew friendships, meet colleagues from around the world, share your experiences with others, improve your skills and knowledge of procedures and disease processes, and indulge in a variety of great cultural experiences in the setting of Renaissance Italy. Before the conference, there will be a series of hands-on workshops where you can practice technical applications in new and well established interventional procedures. Skilled and experienced instructors will coach you through airway maneuvers until you gain enough confidence to take these procedures home to your patients. During the conference, there will be didactic lectures, interactive sessions, and expert panel discussions to highlight clinical problems and new scientific findings. There will be keynote lectures and plenty of opportunities to meet with WABIP award recipients, committee chairs, members, and international regents so you can express your needs and tell us more about yourself, your region, and what you would like the WABIP to do for you to enhance your clinical, educational, and research practices.

So join us in Florence for an exciting number of days catching up with old friends, meeting many new ones, enjoying fine Italian hospitality, food, music, and culture in one of the art and sculpture capitals of the world. We look forward to seeing you this spring!

Regents, MARK YOUR CALENDARS- the BOR meeting will be held Sunday, May 8.

Figure 3: Flyer of Florence World Congress

Research

Like a Crow Flies "In The Lungs"

Diagnosing pulmonary nodules has always been an important part of pulmonologist's, radiologist's and thoracic surgeon's work. In the era of screening CTs for early detection of malignant pulmonary nodules in the high-risk population, the burden of avoiding unnecessary biopsies is heavier than ever on them.

Personalized therapies for lung cancers based on the molecular and genetic information requiring larger amounts of tissue than ever has put the onus on the pulmonologists and interventional pulmonologists to prove their utility by achieving this target using their novel technologies. On the other hand, with the advancing technologies and tools for precise lung biopsy, the pulmonologists and interventional pulmonologists are expected to achieve the task of getting larger amounts of tissue from smaller and smaller nodules with minimally invasive techniques. Sounds almost mutually exclusive! Doesn't it?

We have gone from fluoroscopic transbronchial biopsies (TBBX) with a wide variation in yield ranging from 20-80 percent depending upon the user's experience to recently upwards of 70% of yield in lesions as small as between one to two centimeters with sophisticated electromagnetic navigation systems (1) and radial ultrasound (2). But the desire to improve the yield for even smaller lesions continues to push the boundaries of our skills and the technologies.

In their conquest for the best of both worlds, Sterman et al recently published a novel method called "Bronchoscopic Trans-Parenchymal Nodule Access (BTPNA)" of sampling pulmonary nodules (3). In this method the investigators used a navigation system to choose a straight-line path from central airways (Point of entry) to the artificial nodules (< 1cm in size) that they had planted earlier, avoiding vascular structures and pleural planes. The entire procedure was carried out bronchoscopically. A needle was used to puncture a hole at the point of entry followed by balloon dilation of the hole and eventually a tunnel was made leading to the nodule with the help of a stylet in a catheter. Once the target was reached, the stylet was removed and the sheath was used to pass biopsy forceps to acquire tissue sample. The mean length of the 31 tunnels was 35mm (20.5 to 50.3 mm range) and the mean time to establish the tunnel was 16:52 minutes.

In 31 such biopsies of lesions ranging from 5 to 15 mm, the investigators had 90% success. Remarkably, there were no significant complications including pneumothorax or bleeding.

This study does not only open the doors for large and /or multiple biopsies with minimally invasive techniques and presumptively higher yield for smaller lesions than ever before, but also for the ablative therapies for the lung tumors of early stage patients who are non surgical candidates, debulking of large lesions and more. An entire new paradigm can be introduced in the management of lung cancer offering a "one stop shopping". An interventional pulmonologist could diagnose and treat the lung cancer during the same bronchoscopy in an out patient procedure "One Stop Shopping".

References:

1. Gildea et al. Am J Respir Crit Care Med. 2006; 174: 982–9.
2. Ishida T et al. Thorax 2011; 66: 1072-7.
3. Sterman D et al. Chest. 2015; 147: 700-7.

Malaysian Assembly of Bronchology and Interventional Pulmonology

When: August 19-20, 2015

Where: Auditorium, Serdang Hospital - Serdang Selanor, Malaysia

Program Director: Jamalul Azizi Abdul Rahaman, MD

Website: www.mabip.com

More info here : http://www.wabip.com/events/178-mabip-assembly-2015

10th Annual Midwest Introductory Pleural and Bronchoscopic Procedures Course

When: July 17-18, 2015

Where: Mayo Clinic, Rochester, MN, USA

Program Director: John J. Mullon, MD

This is a regional introductory course for incoming Pulmonary and Critical Care fellows from 14 institutions across the mid-western states of the United states. The course utilizes a flipped classroom model with onsite emphasis on hands-on training, and lectures provided ahead of time electronically. The model is fresh-thawed human cadavers with a low student:cadaver (3:1-4:1) and student:instructor (2:1-3:1) ratio. Bronchoscopy Education Project resources are utilized extensively.

Contact Dr. Mullon at mullon.john@mayo.edu

This educational activity has been officially endorsed by the WABIP.

WABIP ACADEMY- WEBCASTS

The WABIP has started a new education project recently: *THE WABIP ACADEMY.* The WABIP Academy will provide free online webcasts with new and hot topics that will interest pulmonologists and interventionalists.

Current webcast topic: **Tissue acquisition for biomarker directed therapy of NSCLC**

You can reach these webcasts by using this link: http://www.wabipacademy.com/webcast/

Links

www.bronchology.com	Home of the Journal of Bronchology
www.bronchoscopy.org	International educational website for bronchoscopy training with u-tube and facebook interfaces, numerous teachiing videos, and step by step testing and assess ment tools
www.aabronchology.org	American Association for Bronchology and I nterventional Pulmonology (AABIP)
www.eabip.org	European Association for Bronchology and Interventional Pulmonology
www.chestnet.org	Interventional Chest/Diagnostic Procedures (IC/DP) NetWork
www.thoracic.org	American Thoracic Society
www.ctsnet.org	The leading online resource of educational and scientific research information for cardiothoracic surgeons.
www.jrs.or.jp	The Japanese Respirology Society
sites.google.com/site/asendoscopiarespiratoria/	Asociación Sudamericana de Endoscopía Respiratoria

NEW 5 YEAR DATA

Established long-term effectiveness and safety

Newly published data confirm Bronchial Thermoplasty (BT), delivered by the Alair™ System, as a safe and minimally invasive procedure that provides a long-term reduction in asthma exacerbations for patients with severe asthma.

Fewer respiratory-related emergency room visits

- **84% reduction in emergency room visits** for respiratory symptoms at 1 year compared with sham-controlled patients, with reduction maintained out to 5 years[1,2]

Fewer exacerbations, with effectiveness maintained out to 5 years

- **32% decrease in severe asthma exacerbations** (requiring systemic corticosteroids) at 1 year compared with sham-controlled patients, with reduction maintained out to 5 years[1,2]

  —The decrease in severe exacerbations over 5 years included a substantial reduction in the use of systemic corticosteroids associated with those exacerbations[2]

- No increase in hospitalizations, asthma symptoms, or respiratory adverse events over 5-year period[2]

View the 5-year clinical trial results at BT5years.com

Brief Statement of Relevant Indications for Use, Contraindications, Warnings, and Adverse Events: The Alair Bronchial Thermoplasty System is indicated for the treatment of severe persistent asthma in patients 18 years and older whose asthma is not well controlled with inhaled corticosteroids and long-acting beta-agonists. The Alair System is not for use in patients with an active implantable electronic device or known sensitivity to medications used in bronchoscopy. Previously treated airways of the lung should not be retreated with the Alair System. Patients should be stable and suitable to undergo bronchoscopy. The most common adverse event of BT is an expected transient increase in the frequency and worsening of respiratory-related symptoms. Rx only.

CAUTION: Law restricts this device to sale by or on the order of a physician. Indications, contraindications, precautions, and warnings can be found with product labeling.

NOW AVAILABLE from Boston Scientific
for the treatment of severe asthma in adults

Bronchial Thermoplasty™

References: 1. Castro M, et al, for the AIR2 Trial Study Group. *Am J Respir Crit Care Med.* 2010;181:116-124. **2.** Wechsler M, et al; for the AIR2 Trial Study Group. *J Allergy Clin Immunol.* 2013; 132:1295-1302.