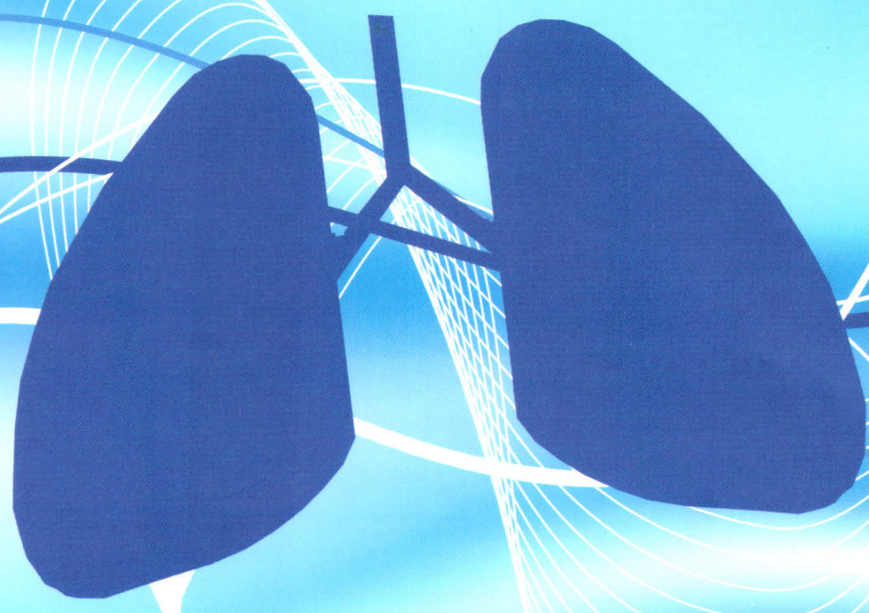
INSPIRE

الجمعيّة اللبنانيّة للأمراض الصدريّة
عدد رقم ٦ – تشرين الثاني ٢٠٠٨



INSPIRE

November 2008
No. 6

Editor

GET INSPIRED
Our country apparently is

Dear Colleagues, over the last few months, as a matter of fact since the last issue of Inspire (June 2008), our local situation has witnessed a dramatic positive evolution on the national level. Even if we, at the LPS, are not a major power pushing to consolidate such evolution, we can definitely feel it. We also feel that members of our Society are more eager to achieve, to actively participate in scientific debates… and to keep an almost passionate pace till the next Annual Meeting to take place this coming April, 2009.

For instance, the recent regional meeting that took place in Pine Land Hammana was a real successful gathering for LPS members coming from all Lebanese regions. We came in good numbers with our families; enjoyed a relaxed atmosphere; no one bothered asking about the "situation", or listening to the broadcasted news... On the scientific front, high-level case discussions, thanks to the LCC initiative (Lebanese Chest Club), alternated with state-of-the-art presentations on pneumonia, tuberculosis... To prove their point of view, some have even tested their respiratory capacities through up-hill biking or hiking.

I really hope that this bother-free mood could go on, and encourage us to pursue our ambitious dreams. Because we have great plans for our Society; the April 2009 Meeting is shaping to be a major regional event with hopefully record attendance. Already, many International experts like A. Mehta, L. Brochard, P. Mathur, R. Dweik… have confirmed their participation in the sessions we are planning.

This requires an effective contribution from all of us, through active participation in the organizing & scientific committees, as well as the six sub-specialty Boards, and any other future activities.

As for this fine newsletter, that has also made great progress, issuing quality scientific articles and keeping tab of the social activities of our society, we urge you once more to write-in your case studies or any other scientific contribution. Hoping you will be Inspired to do so soon in the upcoming issues!

Dr.Wajdi Abi Saleh
President of the Lebanese Pulmonary Society

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European Respiratory Society (ERS)

Annual Congress 2008

October 4 - 8, 2008, Berlin, Germany

More than 19,300 delegates from over 120 countries networked at the 18th ERS Annual Congress in Berlin, and you were probably a part of it.

As a National delegate of Lebanon in the ERS, I was pleased to see the high number of Lebanese attendees in this meeting. Besides, the number of members in the ERS doubled this year from 11 in 2007 to 22 in 2008. Our LPS was there too in a dedicated booth, next to other Societies from all over the world.

During this congress, especially in the committees' meetings or national delegates' meetings, it has been emphasized on the rising interest pertaining to the ERS, and the growing advantages and scientific value of the support one could earn from being an ERS member. For those who are new comers, please let me know if I can be of any help. For others who did not renew their membership, I really thrust them to reconsider their decision. I encourage you to ask for any support from pharmaceutical companies to be a member in the ERS and a subscriber to the ERJ.

On the other hand, this year, the ERS hosted the first European Examination in Adult Respiratory Medicine. This was an inaugural HERMES ("Harmonized Education in Respiratory Medicine for European Specialists") exam, proposing a unique opportunity to become "ERS-certified European Specialist in Respiratory Medicine". It was knowledge-based, in English only, for 2 hours 45 minutes, and 90 multiple-choice questions. The total number of participants was 70, among them three Lebanese. I intend to advocate for the recognition of the value of this Board at any related level of our local authorities. This is a way for proof excellence and mobility, whenever needing to work in other countries. It will give a tangible recognition for the Chest Physician in any place, even if the local authorities do not endorse it.

The next HERMES exam will take place in Vienna, Austria, on September 12, 2009 during the ERS meeting. If you are interested to know the curriculum for this exam, feel free to get in touch with me (and/or check the website: http://hermes.ernest.org). See you there anyway.

Dr. Mirna Waked
National Delegate ERS

PS: In our next Inspire, some scientific findings outlined during this congress will be reported.

Programme de Formation Médicale Continue - FMC 2009

Le comité de FMC vous propose le programme 2009 de formation médicale continue qui concernera quatre sujets de pneumologie courante: La bronchopathie chronique obstructive, la maladie thromboembolique, l'asthme bronchique et les pneumonies communautaires.

Il se déroulera en trois étapes:

1- La première étape consistera en une évaluation anonyme en janvier 09 qui permettra de déterminer les besoins de formation.

2- La deuxième étape consistera en quatre ateliers de formation (un atelier par sujet) dirigés par des experts étrangers et qui se dérouleront en avril et juillet 09.

3- La troisième étape consistera en une deuxième évaluation anonyme en novembre 2009 qui permettra d'apprécier les progrès accomplis.

Pour les intéressés, il est recommandé de consulter les documents disponibles dans l'espace virtuel «Société Libanaise de Pneumologie» auquel ils peuvent se connecter de la manière suivante:

1- Adresse internet:
http://moodle.usj.edu.lb/

2- Saisir le matricule et le mot de passe. Ceux-ci peuvent être obtenus en envoyant un courriel à la SLP: lop_lps@yahoo.com

3- Cliquez sur «Société Libanaise de Pneumologie», ce qui permet d'accéder à différents documents scientifiques en relation avec les activités de notre société, dont plusieurs recommandations internationales sur lesquelles se baseront les évaluations de l'année 2009.

Des certificats signés par les présidents de la Société Libanaise de Pneumologie et de la Société de Pneumologie de Langue Française, et accordant des points de crédits de l'ordre des médecins, seront remis à tous les participants au cours d'une soirée spécialement organisée pour l'occasion, au cours du mois de décembre 2009.

Un tirage au sort permettra à trois des participants aux deux évaluations de gagner chacun, un lot de valeur.

Continuous Medical Education Program - CME 2009

The CME committee offers you the 2009 Continuous Medical Education program which will tackle four common topics in chest medicine: chronic obstructive pulmonary disease, venous thromboembolic disease, asthma and community acquired pneumonia.

This will include three steps:

1. The first step will be an anonymous assessment in January 09 which will help to determine educational needs.
2. The second step will consist of four educational workshops (one workshop per subject) directed by foreign experts and will be held in April and July 09.
3. The third step will be a second anonymous assessment in November 2009 which will evaluate the impact of the workshops.

If you are interested to have references related to the assessment program, you can access resources available on the educational site "Lebanese Pulmonary Society" to which you can connect as follows:

1 - Website: http://moodle.usj.edu.lb/
2 - Enter the "matricule" and password. These can be obtained by sending an email to the LPS: lop_lps@yahoo.com
3 - Click on "Lebanese Pulmonary Society". This will give you access to the needed resources.

All participants will receive certificates with CME credits, signed by the presidents of the Lebanese Pulmonary Society and of the "Société de Pneumologie de Langue Française (SPLF)" during a dinner event on December 2009.

A draw will allow three of the participants in the two assessments to win, each, one valuable gift.

Dr. Georges Khayat
President of the CME Board at the LPS

LCC reports: case studies

The Lebanese Chest Club is a forum for all Lebanese chest doctors to share their experience and get exposed to the latest updates. Two meetings have been organized so far, and these abstracts are a part of the second, held in Hammana (October 2008). For next sessions, you are all invited to submit interesting cases (see details below).

Drug induced chronic cough

A 59 y old man, with no previous medical history, presented with 8 months history of dry cough. He denied any history of choking, wheezing or respiratory distress. He reported consulting several physicians and prescribed multiple cough medications and bronchodilators to no avail. A chest X-ray was done 3 months after the onset of his cough and reportedly had no abnormalities.

Workup of this patient included a CT chest that revealed: on the lower part of the trachea and laterally two opacities, and on the carina laying transversally a thin object. Fiberoptic bronchoscopy was done and lots of granulation tissues were found in the lower part of the trachea. A foreign body was identified and removed by forceps and found to be an aspirin tablet with its blister pack. Following removal, a snare was used to excise the granulation tissue. No postbronchoscopy immediate complications were noted. A repeat bronchoscopy, one month later, revealed no residual endobronchial abnormalities. Upon further questioning our patient admitted that he has been taking Aspirin tablets irregularly for his circulation; however he does not recall a definite history suggestive of pill aspiration.

Foreign body aspiration (FBA), although more frequent in infants and small children, can occur at any age and in the absence of any predisposing factors. FBA, under the age of 15 y, could be a life threatening situation. While acute presentations in adults are rare, 80% will have chronic cough. The diagnosis is frequently overlooked except when foreign body is witnessed by the patient or family or if there is a radiopaque density on a chest radiograph. The peak incidence of foreign body aspiration occurs usually during the second year of life in children and during the sixth decade in adults. The symptoms at presentation are similar in both age groups, but the diagnosis is significantly delayed in adults.

Rigid bronchoscopy is universally performed in children. In adults flexible bronchoscopy is performed for both therapeutic and diagnostic purposes in FBA, and is indicated in all situations except if we have bleeding, central obstruction, or a risk of dislodgement where rigid bronchoscopy is the preferred modality. The removal procedure is safe and rewarding if it is carried out with the right instruments in the hands of experienced physicians in specialized centers.

Dr. Michel Chahine

Tuberculose surrénalienne

-Il s'agit d'un homme de 60 ans qui présente une asthénie depuis plusieurs mois. Il se présente pour symptômes grippaux, suivis d'une douleur abdominale, nausée, crampes membres inférieurs, sueurs nocturnes, toux productive.

-A l'examen clinique on note des râles bronchiques au champ pulmonaire droit, des extrémités froides et cyanosées, un pli cutané, une langue humide, une pigmentation cutanée et muqueuse récente et progressive. TA = 90/60 mmHg, pouls = 110, RR= 24/min.

-A la Rx du thorax: infiltrats et séquelles de tuberculose au lobe supérieur droit.

-A l'ECG = onde T pointue, espace QT sous décalé, espace QRS surélevé suggérant fortement les effets électriques d'une hyperkaliémie.

-Les Gaz du sang révèlent une acidose métabolique partiellement compensée (PH = 7,30; CO2 = 32).

-Le Scanner thoracique confirme une infiltration LSD; IDR à 72 h = 14 mm.

-A l'aspiration bronchique par bronchoscopie on retrouve des BAAR à l'examen direct.

-Na = 130 mEq/L; Cl = 101mEq/L ; K = 6,5 mmol ; glycémie = 0,75g/L.

Examen urines : urée = 365, Na = 35, K = 5.

Diagnostic évoqué: Tuberculose pulmonaire avec troubles hydro électrolytiques suggérant :

1-Néphropathie chronique ou interstitielle

2-Syndrome de Schwartz Bartter

3-Prise de diurétiques

4-Insuffisance surrénalienne primaire (Maladie d'Adisson) ou secondaire.

-La néphropathie est exclue en raison de l'hyperkaliémie et de la glycémie abaissée.

-Le Syndrome de Schwartz Bartter est exclu devant l'acidose métabolique avec trou anionique normal et l'hyperkaliémie et enfin la glycémie abaissée.

-La responsabilité des diurétiques est exclue devant l'absence d'une alcalose métabolique et l'hyperkaliémie et de la glycémie abaissée et le Cl abaissé.

-Donc c'est une insuffisance surrénalienne : l'hyperkaliémie, l'hyponatrémie, l'hypoglycémie évoquant une carence en cortisone.

L'insuffisance surrénalienne est chronique primaire, confirmée par le scanner abdominal révélant une atrophie, des calcifications bilatérales.

La biopsie sous scanner de la surrénale révèle des granulomes tuberculeux. La recherche d'une extension rénale a été négative.

Le traitement est celui classique de la tuberculose (Isoniazide, Rifampicine pour 6 mois + Pyrazinamide et Ethambutol pour 2 mois).

Le traitement de l'insuffisance surrénalienne est instauré immédiatement pour restaurer la volémie: Hormonothérapie substitutive, suivie d'un traitement à vie par l'hydrocortisone.

Dr. Zénon Haddad

Submit and share your case

- The case submission form should include your name, address, and an abstract of about one page, but not the name of the patient. This abstract should be submitted to the LPS via e-mail (lop_lps@yahoo.com), fax (+961 1 422582) or any other convenient means for you.
- The appraising jury members are: Drs. Wajdy Abi-Saleh (CMC-LAU), Joudy Bahous (SGHUMC), Pierre Bou-Khalil (AUH), Mustapha Itani (Beirut Governmental hospital) & Georges Khayat (HDF-USJ).
- Three selected cases will be presented and discussed during the meeting (date and venue to be announced later).
- CME credits will be granted for attendees of the event.

Schering-Plough

This Lebanese Chest Club, organized by LPS, is made possible thanks to the unrestricted support of Schering-Plough

Case Study

About severe pulmonary hypertension...

This case was originally presented at the Lebanese Chest Club latest meeting. But due to its scientific interest, the author preferred to present herein additional data, instead of a summarized abstract.

F.A. is a 19 years old female transferred from another institution for hypoxic pneumonitis and severe pulmonary hypertension. The patient had a history of syncopal episodes treated with antiepileptic medications 4 months prior to presentation. She was also diagnosed with hypercoagulable state (Protein C deficiency) and was treated with anti-Vitamin K. At CMC (Clemenceau Medical Center), the patient was noted to have severe hypoxia and pulmonary HTN. A CT Angiogram of the Chest did no show evidence for pulmonary emboli but show patchy ground glass infiltration (Fig.1 & 2). A trans-bronchial biopsy showed evidence for fibrosis. Multiple echocardiograms confirmed the evidence of pulmonary hypertension with an RVSP of 85 - 100.

Patient had a worsening hypoxia and was administered a systemic steroid boost with resolution of the hypoxia but not the pulmonary hypertension. Extensive serologic work-up for connective tissue diseases was unrevealing. The hypercoagulable profile done at CMC did not confirm the presence of Protein C deficiency. On admission day # 10, a Thoracoscopic Lung Biopsy was obtained and showed evidence for Diffuse & Delicate Interstitial Fibrosis, and Grade III/IV Pulmonary Hypertensive Changes. No evidence for thrombo-embolic diseases. A Pulmonary Function done before discharge showed an isolated reduction in diffusion capacity. She was also started on Sildenafil 25mg QID with good clinical response: her exertional dyspnea improved, the dizziness & syncopal episodes resolved, the tachycardia improved from the 120's to the 100's. Her Pulmonary pressures, as determined by echocardiography, improved from about 100mmHg to about 75mmHg.

She returned to clinic 4 months later with a progressive worsening of her exercise tolerance, and was experiencing once more dizziness & syncopal episodes. She was admitted to our ICU and a right heart catheter was inserted. Initial readings showed a severe increase in PAP. She had an excellent improvement of her hemodynamic profile in response to a progressively higher dose of Tildiem (Table 1).

We achieved a 27 mmHg drop of the mean Pulmonary Pressures, a 50% improvement of her Cardiac Index, and a 127% improvement in her PVR. Patient is able to walk up 5 flights of stairs without desaturation or dizziness. She was discharged on Monotildiem 300 QD + Sildenafil 25mg TID. She now reports normal exercise tolerance and resolution of the dizziness and syncopes.

Discussion and conclusion

Pulmonary hypertension is a devastating and progressive disease with increasing debilitating symptoms leading to death. It is defined as a resting mPAP > 25 mmHg, or a mPAP > 30 mmHg during exercise. Increasing PVR leads to progressive right heart changes; eventually right heart failure occurs (or cor pulmonale) and leads to the patient's final demise.

Pulmonary hypertension is divided in 5 different categories following the pathogenesis of the disease:

1. *Passive*: Due to obstruction of the venous outflow like in Left Heart Failure, Mitral Stenosis, or Fibrosing Mediastinitis.
2. *Hyperkinetic*: Abnormally high pulmonary flow (shunt).
3. *Obstructive*: Thrombo-embolic disease.
4. *Vasoconstrictive*: Hypoxic vasoconstriction (Emphysema, Fibrosis).
5. *Obliterative*: Curtailment of the pulmonary vessels by parenchymal disease.
6. *Idiopathic*.

Most common symptoms include dyspnea and fatigue, but they also include syncope, leg edema and palpitations. Four different functional categories are described:

- Class I: Pulmonary HTN without physical limitations. Ordinary activity does not cause undue dyspnea, fatigue, chest pain, or near syncope.
- Class II: Slight limitation of physical activity. Comfortable at rest, ordinary activity results in undue dyspnea or fatigue, chest pain, or near syncope
- Class III: Marked limitation of physical activity. They are comfortable at rest but less then ordinary activity causes undue dyspnea, fatigue, chest pain, or near syncope.
- Class IV: Any physical activity leads to symptoms. Manifestations of cor pulmonale are at hand. Dyspnea and fatigue are present at rest.

In the pathogenesis of pulmonary hypertension, the presence of partial reversibility and smooth muscle hypertrophy indicates a degree of sustained vasoconstriction. There is further evidence of an imbalance between the production of endothelin derived vasodilator NO and prostacyclin, and other endothelin & platelet derived vasoconstrictors. But not all patients respond to the administration of

Table 1: Hemodynamic profile in response to doses of Tildiem

	Baseline	Tildiem 30mg	Tildiem 60mg	Tildiem 90mg	Tildiem 120mg	Tildiem 300mg
PAP	94/52	95/47	92/51	59/24	58/24	76/34
PAOP	4	8	8	8	8	8
CI	1.85	2.1	2.68	2.50	2.52	3.03
PVR	1535	1239	1006	586	435	634
SVR	1386	1000	938	970	1197	935

vasodilators. There is evidence for small artery adventitial & medial thickening, occlusive intimal lesions, and obliterative thrombotic lesions. This is attributable to abnormal smooth muscle, myofibroblast, or endothelial cell proliferation.

Therapeutic options include the use of vasodilators. The initial choice of therapy depends on the hemodynamic response to an acute administration of a vasodilator during right heart catheterization. It is important to note that only 10 – 15% have a favorable response. Different vasodilators could be used whether selective (NO & prostacyclin) or not selective to the pulmonary circulation.

Fatal outcomes were reported while testing a non responder with calcium channel blockers especially in the presence of right heart failure. This is why testing should be performed by a physician experienced in the management of pulmonary vascular disease. This also prompted investigators to test patients with a more selective & short acting vasodilators. Intravenous adenosine is a short acting & potent vasodilator that shows good correlation with nifedipine. Inhaled NO is a short acting & selective vasodilator with a high correlation with calcium channel blockers as well.

Initially intravenous prostacyclin was used, but Rich later demonstrated a similar efficacy when using oral Nifedipine or Diltiazem given hourly until a favorable response or intolerable side effects. A favorable response is defined as >20% reduction in mPAP or PVR with an unchanged C.O. The response to calcium channel blockers has an important prognostic significance: 94% of responders survive 5 years when only 55% of non-responders do.

Prostacyclin is produced by the endothelium & induces vasodilation; it has some antithrombotic & antiproliferative properties. Epoprostenol is a stable derivative of prostacyclin that can be given as a continuous intravenous infusion. Treatment with Epoprostenol improved hemodynamics, functional status, and short & long term survival in primary or scleroderma-associated pulmonary hypertension. The dose should be titrated to achieve normal CO. Common complications are related to the indwelling catheter. Subcutaneous Trepostinil & oral Beraprost have also improved functionality as demonstrated by the 6 minutes walk test at 6 months. Inhaled Iloprost is thought to be superior to inhaled NO and has improved hemodynamics, exercise tolerance, and may have some long term improvement.

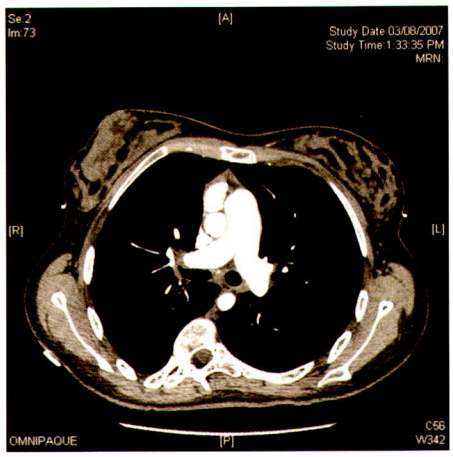
Inhibition of Phosphodiesterase 5 (PDE5I) leads to an increase in cGMP and a decrease in the hypoxic pulmonary vasoconstriction. Sildenafil, a PDE5I, is shown to decrease mPAP and increase CO, but also exerts systemic effects. Long term successes have been reported in primary pulmonary hypertension as well as secondary to chronic thrombo-embolic disease. Although it has a higher selectivity than calcium channel blockers & prostacyclins, it is less selective then NO and can induce a reduction in systemic blood pressure.

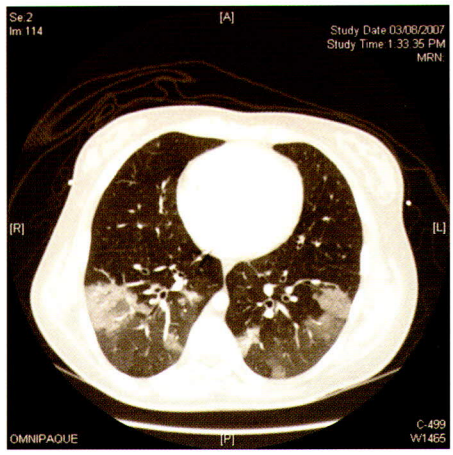
Endothelin-1 is a potent vasoconstrictor and a promoter of pulmonary vascular hypertrophy. It is produced by the endothelial cells. It exerts its effects via ETA & ETB. The activation of ETA facilitates vasoconstriction and proliferation while the activation of ETB modulates the action of ETA through the clearance of endothelin. Therefore the activation of ETB may lead to vasodilation. Inhibition of ETA leads to a decrease in the hypoxic pulmonary vasoconstriction.

In a 12 weeks prospective controlled & randomized trial, Bosentan, a mixed ETA & ETB inhibitor, led to:

1. Improved hemodynamics: an increase in the CO as well as a reduction in the mPAP & PVR.
2. Improved functional class.
3. Improved dyspnea scale, and time to clinical worsening.
4. 76 meters mean improvement in the 6 minutes walk test.

In a 1 year, open label follow–up trial Rx with Bosentan, the functional improvement was maintained, and the patients demonstrated continued hemodynamic improvement with





further reduction in PVR and increase in CO. Bosentan is approved for use in Class III & IV pulmonary hypertension. Newer trials have also proved its efficacy in Class II pulmonary hypertension patients. Selective ETA inhibitors sitaxentan & ambrisentan have had proven efficacy when compared to placebo.

Adjuvant therapies in pulmonary hypertension:

1. Anticoagulation is recommended in pulmonary hypertension for the treatment of the in situ thrombosis. Improved survival has been reported although we lack randomized trials.
2. Hypoxemia is a well known potent pulmonary vasoconstrictor; hence O2 therapy is recommended to maintain a Sat>90% at all times.
3. Diuretics are used to decrease the hypervolemic state associated with cor pulmonale.
4. Statins may reverse endothelial dysfunction by enhancing NO mediated vasodilation by increasing eNOS expression & activity. They also exert anti-thrombotic activity.

Dr. Wajdi Abi Saleh

Tuberculosis (TB), Part III*

Laboratory Diagnosis of Tuberculosis

Nadim Kanj
MD, FCCP

This is the third part of our ongoing presentation of tuberculosis, this ancient plague which is still giving cold swept to some patients, and physicians. In the first part, the historical dimensions of TB were recapitulated and summed up. The second was more of an epidemiological journey through pathogenesis, radiography, and a whole bunch of clinical manifestations. This third part will tackle mainly tests and diagnosis issues, or some of them...

Let's deal with Latent Tuberculous Infection (LTBI); there are four major steps in the effective management of screening and treating LTBI:

1. Screening at-risk populations
2. Ruling-out active TB
3. Weighing benefits of treatment against risk of toxicity
4. Monitoring periodically and encouraging compliance

Tuberculin skin test (TST)

The standard tuberculin skin test (TST) is an intradermal injection of 0.1 ml of 5 tuberculin units purified protein derivative (PPD) from *Mycobacterium bovis* into the forearm with subsequent measurement of *induration* (not erythema) 48 to 72 hours after placement. Transverse diameter is recorded in millimeters. To improve the specificity of the TST, the interpretation is risk-stratified by size of induration based on the likelihood of recent TB infection and risk of reactivation. Prior Bacillus Calmette Guerin (BCG) vaccination should not be allowed to influence the interpretation of a screening skin test. Patients expecting serial screening (i.e., healthcare workers) with a negative initial TST should undergo a repeat skin test in 1 to 3 weeks to determine their baseline boosted response.

The tuberculin skin test (TST) has been used to diagnose infection with *Mycobacterium tuberculosis* for close to 100 years. This longevity reflects the TST's low cost and ease of administration, as well as the numerous longitudinal studies correlating the size of the TST reaction with future risk of active tuberculosis (TB). These studies demonstrated that persons with positive tests had increased risk of developing active TB in the future, whereas persons with negative tests had low risk. Furthermore, placebo-controlled trials have demonstrated that antituberculous drug treatment of subjects with positive TST's reduced their risk of developing active TB, whereas treatment of persons with negative tests had no benefit, even if they were immunocompromised. This experience is the basis for authoritative recommendations to identify and treat a positive TST, de facto considered equivalent to latent TB infection.

The TST has several limitations, particularly poor specificity because of cross-reactivity with the antigens of the bacillus Calmette-Guerin (BCG) vaccine, as well as many of the nontuberculous mycobacteria. The injection of antigens can stimulate anamnestic immune recall, so that repeated administration can lead to a larger reaction ("boosting"). Finally, patients must return for a second visit 48–72 hours

Criteria for tuberculin positivity, by risk factors*

≥5mm of Induration	≥10mm of Induration	15mm of Induration
Recent contacts of an active TB patient HIV-positive persons Fibrotic changes on CXR consistent with prior TB Patients with organ transplants and other Immunosuppressed patients (>15mg/d of prednisone for 1 mo)	Recent immigrants from high prevalence countries Injection drug user Residents and employees of high-risk settings: prisons, nursing homes, hospitals, residential facilities for AIDS patients, and homeless shelters Persons with high risk medical conditions: silicosis, diabetes mellitus, chronic renal failure, some hematologic disorders, other specific malignancies, weight loss > 10% of ideal body weight, gastrectomy and jejunoileal bypass. Mycobacteriology laboratory personnel Children younger than 4 yr, or children exposed to adults at high risk	Persons with no risk factors for TB

An increase in size of >10mm in a 2 yr period is consistent with a recent TB infection.

*Adapted from Centers for Disease Control and Prevention Screening for tuberculosis and tuberculosis infection in high-risk populations: recommendations of the Advisory Council for the Elimination of Tuberculosis. MMWR 1995;44 (No. RR-11): 19-34

(*) N.B. This series should conclude by Treatment of Tuberculosis (Part 4). So, we'll meet on next Inspire.

after TST placement for reading.

New diagnostic tests include:
A- T-cell interferon-γ release assays (TIGRA)
B- Nucleic acid amplification assays (NAAT)
C- Serologic tests

T-cell interferon-γ release assays (TIGRA)

In recent years, IFN- γ release assays (IGRAs) have been proposed as alternatives to the TST. IGRAs examine the in vitro IFN- γ release by the patient's leukocytes in response to two or three antigens that are relatively specific for M. tuberculosis. These antigens are neither found in the BCG vaccine nor in most nontuberculous mycobacteria, so the potential for false-positive tests, due to cross-reactivity, is significantly lower with IGRAs than with the TST. IGRAs require only a single visit for phlebotomy and avoid the potential for boosted responses with repeated testing, as the patient is not exposed to any antigens in vivo. In the past 3 years, a number of agencies have recommended incorporation of IGRAs into testing strategies for diagnosis of latent TB, although some recommendations are more limited than others.

TIGRA types:

- QuantiFERON - TB Gold (2G), (Cellestis AUS) FDA approved
- QuantiFERON - TB Gold in Tube (3G) FDA evaluation ongoing
- T- spot. TB (Oxford Immunotec UK) FDA evaluation ongoing

QuantiFERON -TB Gold (QFT-G):

FDA-approved alternative to TST with some distinct advantages. This test works by detecting the release of interferon-gamma in freshly heparinized whole blood from sensitized persons when it is incubated with mixtures of synthetic *M. tuberculosis* peptides. A number of studies have found at least equal sensitivity and specificity for QFT-G compared to TST in detecting LTBI. It can be used in all situations that call for TST and has the advantage of only requiring a single visit and not being influenced by prior BCG vaccination or the boosting phenomenon. Experience with QFT-G is still limited with inadequate information regarding its use in children (<17years), pregnant women, and those that have had recent positive TST. It also appears to be less sensitive than TST in those with symptoms of active TB or those receiving treatment for active TB.

T-cell interferon-γ release assays TIGRA is of importance in the following:
- Active TB
- Immunocompromised patients
- Health-care workers
- Children
- Cost-effectiveness

I will summarize some recent studies:

1-Active TB

■ (Kobashi), *Clin Inf* Dis. 2006; Japan: "We confirmed that the QFT-TB test is a useful diagnostic method for differentiating active pulmonary TB from NTM compared with the TST".

■ (Dewan), *Clin Inf* Dis. 2007; California: Retrospective study, 242 persons with suspected TB in San Francisco, QuantiFERON-TB Gold; 64% of 36 TB patients had a positive QuantiFERON-TB Gold: "This sensitivity suggests that the blood assay should not be used alone to exclude active TB".

■ (Kang), *Chest.* 2007; Seoul: Prospective study, 144 participants with suspected pulmonary TB, QuantiFERON-TB Gold and T-spot. TB, Sensitivity of both QFT-G and T SPOT. TB for active pulmonary TB are high, while specificity is considerably lower, NPV of QFT-G (84%) and T SPOT.TB (87%) are higher than that of TST (64%) (P=0.001 and p< 0.001 respectively).

■ (Dheda), *J Infec.* 2007; London: T - SPOT.TB, 33 patients with culture positive tuberculosis during anti-TB treatment. Significantly more patients in the early rather than the late phase of treatment had positive TIGRA (83% vs. 19% p< 0.01). In a low burden setting TIGRA may be a promising surrogate marker of mycobacterial disease burden.

■ (Kobashi), *Chest.* 2008 ; Japan: QFT-2G test might be a more useful method of diagnosing TB infection than the TST for elderly patients if peripheral lymphocyte counts have been preserved.

■ (Diel), *Am J Respir Crit Care Med.* 2008; Germany: Close contacts (n = 601) of MTB-positive source cases underwent both TST and QFT testing and were subsequently observed for 103 (613.5) weeks. What this study adds to the field is that IGRA testing appears to be a more accurate indicator of the presence of latent TB infection than the TST and provides at least the same sensitivity for detecting individuals who will progress to active TB.

2-Immunocompromised patients

■ (Luetkemeyer), *Am J Respir Crit Care Med.* 2007: Indeterminate QFT-IT in low CD4 HIV.; Low QFT-IT vs. TST agreement in HIV.

■ (Clark), *Clin Exp Immunol.* 2007: Few indeterminate T-SPOT.TB results in HIV; Low CD4 and positive T-SPOT TB : active TB.

■ (Rangaka), *Clin Infect Dis.* 2007: TIGRA unaffected by HIV infection; Low agreement between TIGRA and TST.

■ (Passalent), *Clin J Am Soc Nephrol.* 2007: TST highly insensitive in ESRD patients.

■ (Piana), *New Microbiol.* 2007: TST insensitive in hematological patients.

The publication in J IMMUNOL. 2007 titled "Dynamic relationship between IFN-γ and IL-2 profile of Mycobacterium Tuberculosis- specific T cells and antigen load" might be a look into the future of TIGRA. In this article the frequencies of M. tuberculosis Ag-specific IFN-gamma-secreting T cells declined during 28 mo of follow-up. The average percentage decline was 5.8% per year (p = 0.005). Furthermore the frequencies of Ag-specific IL-2-secreting T cells increased during treatment (p = 0.02). There was a shift to dominance of IFN-gamma/IL-2-secreting CD4 (+) T cells and newly detectable IL-2-only secreting CD4 (+) T cells during and after treatment.

Conclusion: These distinct T cell functional signatures before and after treatment suggest a novel immunological marker of mycobacterial load and clinical status in tuberculosis. This requires validation in larger prospective studies.

3-Health-care workers

■ (Drobniewsky), *PLoS Med.* 2007: QFT-G IT useful in Russian HCWs.

■ (Nienhaus), *Pneumologie.* 2007: QFT-G IT and TST disagree in German HCWs.

■ (Soborg), *Scand J Infect Dis.* 2007 : Very few QFT-G positive Danish HCWs.

4-Children

■ (Detjen), *Clin Infect Dis.* 2007: TIGRA more specific than TST in children.

■ (Taylor), *Arch Dis Child.* 2007: NICE GL issue (UK): Retrospective QFT-G in children.

QFG tests were more likely to correlate with a negative Mantoux (98% agreement) than with a positive Mantoux (11% agreement).

New NICE guidelines for the use of IFN-γ based tests in TB screening will decrease the number of children treated for presumed LTBI.

5-Cost-effectiveness

■ (Diel), *Chest.* 2007: TST and QFT-G are cost-effective in contacts.

■ (Diel), *Eur Respir J.* 2007: TST and T-SPOT.TB are cost-effective in contacts.

■ (Jones), *Int J Tuberc Lung Dis.* 2007: "Utility of QuantiFERON-TB Gold in-tube testing for latent TB infection in HIV-infected individuals".

* Interferon-gamma release assays (IGRAs) are superior to the TST in drug users with a higher prevalence of LTBI (Grimes)

* The specific IFN- response may wane considerably with time after infection (Mori)

* Before using tumor necrosis factor-alpha blockers, poor agreement between TST and the IFN-γ (Cobanoglu)

* Prior intradermal PPD injection may boost QFT-G (Igari)

* QFT-G testing may be more useful than TST for latent TB infection in individuals with HIV infection (Jones)

■ (Mazurek GH), *Clin Infect Dis.* 2007: A prospective, multicenter, cross-sectional comparison study, where 148 persons suspected to have tuberculosis were tested simultaneously with the TST, QFT, and QFT-G.

It concluded that "The TST, QFT, and QFT-G have similar sensitivity in persons with culture-confirmed infection. As with the TST, negative QFT and QFT-G results should not be used to exclude the diagnosis of tuberculosis in persons with suggestive signs or symptoms".

Conclusion: As is evident, despite the theoretical advantages of IGRAs, there has been little evidence that a positive IGRA result is predictive of future risk of active TB. This type of evidence is crucial, as the only gold standard for a test of latent TB is the future development of active disease. Furthermore, every study that has compared IGRA tests to each other (QuantiFERON Gold/Gold In-Tube to T-SPOT.TB) has found a significant proportion of subjects with discordant test results, the significance of which is unknown. New studies suggest the potential for IGRAs to enable programs to target the highest risk patients for latent TB treatment. And as all of you already predicted, further prospective studies to better define the ability of IGRAs, relative to the TST, to predict future risk of active TB are seriously needed.

Nucleic acid amplification assays (NAAT)

Current evidence on diagnostic accuracy of commercially based nucleic acid amplification tests for the diagnosis of pulmonary tuberculosis:

- (Greco), *Thorax.* 2006: NAAT useful in excluding AFB+TB.

Serologic tests

- (Steingart x2), Thorax. 2007: No role at the moment.

Conclusions and perspectives

Despite a large number of studies published over the past several years, serology has found little place in the routine diagnosis of TB, even though it is rapid and does not require specimens from the site of disease. Sensitivity and specificity depend on the antigen used, the gold standard used for the diagnosis of TB, and the type of TB disease. Though most of these tests have high specificity, their sensitivity is poor. In addition, these tests may be influenced by factors such as age, prior BCG vaccination and exposure to non-tuberculous mycobacteria strains.

In contrast, while the initial results of IFN-determination for the detection of latent infected individuals appear promising, it remains to be seen whether this will translate into practically useful results in the field. Indeed, IFN- γ assays are expensive tests and their higher cost appears to limit their wider applicability, especially in resource-limited settings and developing countries, where TB is highly rampant. The ELISPOT (the enzyme-linked immunospot T SPOT-TB) test is not yet suitable for widespread use, because it is costly and requires isolation of mononuclear cells, a procedure that is not performed in clinical laboratories.

Because most mycobacterial epitopes are recognized in the context of specific HLA antigens, the IFN- γ based assays should be evaluated at multiple geographic locations, among patients of different ethnicities. Although BCG vaccination does not yield false-positive results in IFN- γ assays using selected antigens, the specificity of the test should be studied in persons exposed to environmental mycobacteria, such as members of the *M. avium* complex. Studies with larger numbers of TB patients are needed to address this issue. The diagnosis of latent TB represents a major advance in the quest for better tests. The explosion of microbial genomics, proteomics, and transcriptomics will yield more *M. tuberculosis* specific genes and antigens; and IFN- γ assays, using peptides from multiple antigens, should be more sensitive than the ones using only ESAT-6 or/and CFP10. Until we find a reliable diagnostic test for detecting active disease, "TB or not TB?" shall remain a question.

Recommendations

Recommendations for the core laboratory features of a tuberculosis control program:

■ Rapid microscopic evaluation for acid-fast bacilli.

■ Nucleic acid amplification assay (NAA/polymerase chain reaction (PCR) of collected sample.

■ Culture, with detection and subsequent identification of samples within 3 weeks (which presupposes use of automated broth culture methods).

And

■ Drug susceptibility testing for both first- and second-line drugs (usually performed at the state lab or national referral center level).

In this context I'd like to mention the article published in *Am J Respir Crit Care Med.* 2007 by Schoch and titled "Diagnostic Yield of Sputum, Induced Sputum, and Bronchoscopy after Radiologic Tuberculosis Screening". The following were recommended:

- Mandatory collection of respiratory specimens in cases with radiologic findings suggestive of tuberculosis.
- Radiologic findings suggestive of tuberculosis examined with two sputum specimens, one on-the-spot sputum and one early-morning sputum.
- Bronchoscopically collected specimen is recommended if both these specimens are smear negative.
- Bronchoscopy must always be supplemented by additional sputum examinations to increase diagnostic accuracy.
- Collection of induced sputum offers a valuable alternative to bronchoscopy.
- It concludes by "Radiographic findings suggestive of tuberculosis found during screening are a poor guide to initiation of antituberculosis treatment. Respiratory symptoms and systemic disease manifestations correlated weakly with culture confirmation of tuberculosis. The yield from two spontaneous sputum samples was lower than expected and was improved with the additional collection of induced sputum and bronchial aspirates Bronchial aspirates added more than two additional induced sputa to improve the diagnostic yield."

Clinical Algorithm for the Laboratory Diagnosis of Tuberculosis

Suspected case of tuberculosis

Pulmonary disease is suspected

Send:
1- Three inducted or spontaneous (respiratory isolation) a.m. sputum samples for AFB staining and microscopy : 5 to 10mL each, accept watery specimens
2- One sputum sample for MTb complex PCR;
3- Same three sputum samples for culture;
4- If effusion is present, consider sending diagnostic thoracentesis sample for smcar, culture, PCR, and adenosine deaminase (ADA) testing- pleural biopsy has higher culture sensitivity;
5- Consider early morning gastric aspiration of 50mL in children or failed sputum inductions; and,
6- Consider an IFN based assay on serum or Tuberculin skin test – negative test does not exclude disease.

Other than pulmonary disease is suspected

Send:
1- Samples as you would for suspected pulmonary disease; and,
2- Sample from suspected site. For tissue collections, collect both with and without formalin.

a-Lumph node
- excisional biopsy preferred
- fine needle aspiration if unable to obtain excisional biopsy, e.g.CT guided biopsy in setting of mesenteric adenitis
- AFB smear and culture
- Histopathologic analysis

b- CSF
- cell count and differential
- chemistries to include glucose and protein
- AFB smear (typically negative) and culture (10mL often required)
- Consider PCR

c- Pleural, pericardial, or ascitic fluid
- cell count and differential
- chemistries to include glucose and protein
- AFB smear and culture (lining biopsies have higher yield)
- Consider ADA analysis
- PCR

d- Other tissues (bone marrow, skin, liver, spleen,...kidney)
- AFB smear and culture
- Histopathologic analysis, may consider specialized AFB staining, and subsequent targeted PCR
- PCR

e- Blood
- culture
- PCR

f- Stool, consider intestinal biopsy
- culture
- PCR

g- Urine (first morning mid void stream collection), three daily samples
- urinalysis and conventional culture
- culture
- PCR

Annual Meeting 2008
A Lebanese French Scientific Gathering

Despite some unhelpful national events, the Annual Meeting of the Lebanese Pulmonary Association was held on 18-19 of April 2008, with the active collaboration of the** Association franco-Libanaise de Pneumologie**. Two days of medical arguments and debates (some of the abstracts herein as received by Inspire), plus some informal gatherings, dinners and the like, in a merry atmosphere (as we can see from the faces and smiles – snap shots taken for Inspire).

The management of Non-Small Cell Lung Cancer: A perceptible progress in the Era of Targeted Therapies

Lung cancer is the second most common cancer, and the leading cause of cancer death in the United States of America. There are over 160,000 new cases each year in that country and estimated overall 5-year survival remains at 15%. One of the reasons for this poor survival is that 39% of patients had advanced disease at diagnosis.

There are well-established guidelines that suggest therapeutic approaches for non-small cell lung cancer patients. Since the last decade, chemotherapy has been recommended as the treatment of choice and showed superiority over best supportive care in order to improve quality of life and prolong survival time for advanced disease. Recent meta-analysis compared outcomes of platinum-based versus single agent chemotherapy for metastatic non-small cell lung carcinoma (NSCLC) patients, and showed that platinum-based doublets produced higher overall response rate than with single agents. Salvage treatment for patients who relapsed has also proven its advantage.

Recent efforts in the management of lung cancer these recent years have centered on the development and introduction of molecularly targeted therapies with new mechanisms of action and less toxicity. FDA approvals have been given to Bevacizumab (anti-VEGF monoclonal antibody) in the first line treatment of NSCLC and Erlotinib (Tyrosine Kinase Inhibitor) in the second line treatment of NSCLC.

Continuous research is needed in order to prevent the disease (vaccine), determine genetic pro-oncogene, tailor our therapeutic approach and be cost-effective.

Dr. Marwan GHOSN

Non-ventilatory strategies in the management of ARDS

The past few years have witnessed the emergence of exciting and promising developments in the management of ARDS. These include both ventilatory and non-ventilatory strategies. And while some ventilatory strategies, namely low tidal volume lung protective strategy, have positively altered the natural history of ARDS, the non-ventilatory strategies have yet to prove their worth as effective adjuncts in the management of this fascinating and equally frustrating entity. The presentation (discussed during the Annual Meeting 2008) shed some light on those different modalities with added emphasis on steroids, surfactant, and fluid management.

Dr. Georges S. JUVELEKIAN

Extra Thoracic Sarcoid

Sarcoidosis is a systemic and chronic disease of unknown cause, worldwide distribution and a variable natural history. The characteristic histologic lesion is a noncaseating granuloma that has been described as affecting all organ systems .The lungs are mostly affected, followed by skin, LN, eyes, liver, spleen, neurologic, parotid/salivary, bone marrow, hypercalcemia, ENT, cardiac, renal, bone/joints and muscle involvement. Endocrinologic disturbances have been reported also. Cutaneous sarcoidosis is a "great imitator". Histological confirmation is mandatory for the diagnosis of systemic sarcoidosis. The lecture (at the Annual Meeting 2008) reviewed the various manifestations of extrathoracic sarcoidosis and discussed current treatment modalities.

Dr. Nadim KANJ

Pneumopathies interstitielles diffuses idiopathiques

Les pneumopathies interstitielles diffuses idiopathiques constituent un groupe hétérogène de pathologies pour lesquelles une classification anatomo-clinique a été proposée en 2002 sous l'égide de l'ATS/ERS. Elle individualise 7 entités histopathologiques différentes avec une correspondance clinique, facilitant la constitution de groupes de patients comparables, étape nécessaire au suivi des nouveaux essais thérapeutiques. Un diagnostic sûr et le plus précoce possible de FPI est un enjeu d'une grande importance en raison du pronostic péjoratif de cette affection et de la prise en charge particulière de ces patients. La décision d'une biopsie chirurgicale sous vidéo-thoracoscopie est l'aboutissement d'une concertation collégiale. Elle ne se justifie que pour un nombre restreint de patients lorsque la présentation clinique et scanograhique n'est pas typique. Cette biopsie est d'interprétation souvent difficile pour le pathologiste. Les critères histopathologiques de ce diagnostic, en confrontation avec les autres types de fibrose idioathiques ont été discutés (au cours du Congrès annuel 2008).

Dr. Marianne KAMBOUCHENER

Réhabilitation pulmonaire : aspects pratiques

Récemment, la réhabilitation respiratoire (RP) a été reconnue comme élément essentiel et indispensable pour une prise en charge optimale des patients BPCO. La RP permet une amélioration de l'endurance, de la dyspnée et de la qualité de vie des patients au travers des activités de la vie quotidienne mais aussi dans le ressenti et le vécu psychologique et social des patients.

Quel que soit le lieu envisagé de la RP (en centre, en ambulatoire, ou au domicile), la RP doit être le fruit du travail cohérent d'une équipe multidisciplinaire. Le patient doit bénéficier d'un programme individualisé comprenant les éléments suivants :

* Kinésithérapie respiratoire, un travail en endurance et en force des membres inférieurs et supérieurs,
* Éducation physique,
* Soutien nutritionnel et psychosocial,
* Éducation thérapeutique,
* Optimalisation des traitements à visée respiratoire et la prise en charge des morbidités.

Pourront être discutés, en fonction de l'état clinique et la sévérité du patient, un travail des muscles respiratoires, un apport en oxygène au cours de l'effort, l'apport d'anabolisant, l'électrostimulation et la ventilation non invasive.

Dr. Karen HARDYA

First session, naturally crowded, at the Motropolitan Hotel, but the presence in general was more than satisfactory during all the congress.

Major pharmaceutical firms represented in Lebanon were present at the large hall of the hotel to showcase latest breakthrough remedies in related diseases.

Spring Onslaught increases health risks for asthmatic patients, 87% of whom, in Lebanon, also suffer from allergic rhinitis*

An observational study covering 517 Lebanese asthmatic patients found that 87% of them also suffer from allergic rhinitis - a condition associated with nasal congestion, runny noses, watery eyes and itching that tend to increase during high-pollen springs. The link between asthma and allergic rhinitis, only now becoming better recognized by the medical community, has been associated with decreased quality of life as well as exasperation of potentially life-threatening asthma episodes that lead to increased hospital visits and general overall medical costs.

More than 75% of patients observed in the Lebanese study noted that their joint asthma-allergic rhinitis symptoms and co-morbidities reflect negatively on their activities. "Though common triggers for asthma and allergic rhinitis are present in the atmosphere all year round, as they include dust and various airborne odors or sediments, the rise in pollen prevalence and the dusts stemming from what is known locally as khamseen winds this time of year makes spring an extremely sensitive time for sufferers", said Dr. Wajdi Abi-Saleh, President of the Lebanese Pulmonary Society.

International Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines recommend that all "patients with asthma should be appropriately evaluated for allergic rhinitis", as more and more studies reveal high prevalence of both conditions simultaneously. Asthma is one of the most common chronic diseases in the world, affecting more than 300 million people worldwide. It is characterized by recurrent breathing problems and symptoms such as breathlessness, wheezing, chest tightness and coughing. Asthma symptoms vary over time, over different age groups, and among individuals.

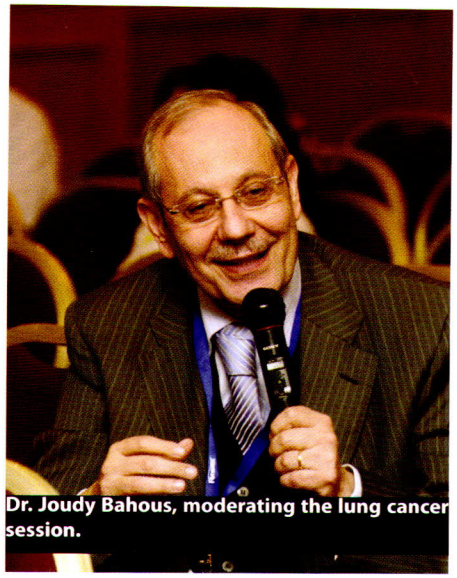
Allergic rhinitis, which is estimated to affect at least 20% of the population, is the most common respiratory disease other than the common cold. Exposure to indoor or outdoor allergens such as dust mite, mold spores or pollen, causes an allergic reaction leading to symptoms such as runny, itchy or stuffy nose, sneezing attacks, irritated throat and watery itchy eyes. Allergic Rhinitis may be present off and on throughout the year or only seasonally.

(*) This text is a press release distributed to the media by the LPS board, as a part of an awareness campaign aiming the general public, concurrently with the Annual Meeting 2008.

Dr. Wajdy Abi-Saleh, addressing the general assembly at the opening of the congress, as the president of the LPS.

Dr. Ahmad Hosary: Restless leg syndrome; diagnosis and treatment.


Dr. Béatrice Chami, moderating the Pfizer symposium.


Dr. Joudy Bahous, moderating the lung cancer session.

Dr. Maurice Khoury: Utility of community-based automated defibrillators.

Dr. Georges Juvelikian: Nonventilatory strategies in ARDS


Dr. Richard Timery, moderating the critical care session.

Dr. Salah Zeineddine: Advances in the management of severe sepsis.

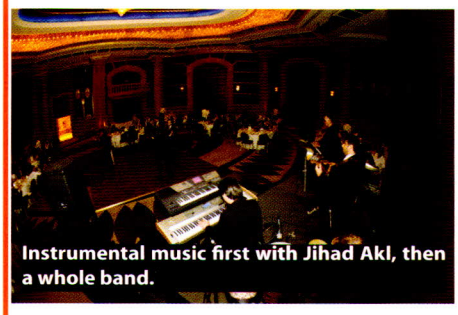

Dr. Taha Bazerbachi: Early detection of lung cancer.

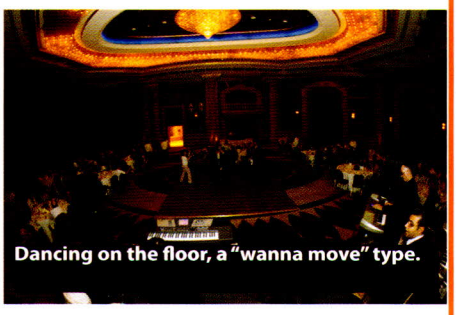
The other side of midnight

Red Violin, let's dance and other red roses were the motion pictures of the gala dinner which concluded beautifully the Annual Meeting


Dr. Nadim Nehmeh and Mrs, with Dr. Mireille Sfeir. Latest jokes will soon follow.


That was about the end of the gala dinner.


Instrumental music first with Jihad Akl, then a whole band.


Dancing on the floor, a "wanna move" type.


Smiley faces, original version from Dr. Feyrouz Chamseddine and Dr. Youssef Zein (president of the AFLP).


President elect, starting 2009, Dr. Nadim Kanj and Mrs.

The **2009** Congress of
the Lebanese Pulmonary Society
& **the Annual Meeting of the Mediterranean Union of Thoracic Disease**

*Le Congrés **2009** de*
***la Société Libanaise de Pneumologie** et*
la Réunion Annuelle de
L'Union Méditérranéenne de Pathologie Thoracique

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Wajdy Abi-Saleh, MD, FCCP

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Mohamad Yassine	*Lebanon*

LPS UMPT

17-19 April 2009
Phoenicia Intercontinental Hotel
Beirut - Lebanon

For more info / *Pour plus d'info*
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With the participation of
Franco - Lebanese Pulmonary Association

Avec la Participation de
L'Association Franco Libanaise de Pneumologie

Dear Colleagues,
The Mediterranean Sea, or the sea in the middle of earth, had a major influence on the history and ways of life of some of the most ancient civilizations. It provided a basis of life, a way of trade, colonization & war; but also provided a basis for cultural exchange.
The creation of an alphabet was instrumental in promoting cultural exchanges. 2700 BC, ancient Egyptians wrote with a set of 22 hieroglyphs. This script was later developed & refined into the Phoenician alphabet. It was later spread by those same Phoenicians, across their maritime Mediterranean realms.
Dear friends, to give suite to this rich cultural ritual, let us meet this coming April 2009, during the joint annual congress of the Lebanese Pulmonary Society & the Mediterranean Union of Thoracic Pathology, on the shores of a welcoming Mediterranean city, Beirut.

Chers collègues,
La Mer Méditerranée ou la mer au milieu de la terre, a eu une grande influence sur l'histoire et le train de vie de plusieurs anciennes civilisations. Elle a fourni une base à la survie, un moyen de commerce, de colonisation, et de guerre; mais aussi un moyen d'échanges culturels. La création d'un alphabet était essentielle à la promotion de ces échanges culturels. En 2700 Avant JC, les anciens Egyptiens ont créé les hiéroglyphes qui ont été par la suite développées et raffinées en alphabet phénicien. Ce dernier sera plus tard répandu par les phéniciens, à travers leurs royaumes maritimes méditerranés.
Chers amis, pour donner suite à ce riche rituel culturel, je vous invite à vous joindre à nous en Avril 2009, au sein du congrès annuel de la Société Libanaise de Pneumologie et de l'Union Méditerranéenne de Pathologie Thoracique sur les rives d'une ville méditerranéenne bien accueillante, Beyrouth.

Wajdy Abi Saleh, MD, FCCP
Chairman of the congress

First Announcement

- Pulmonary Hypertension:
  Early diagnosis leads to better care
- Lung Health: *Promotion and prevention*
- Hot issues in respiratory physiology
- Critical support of the lungs
- Genetics and lung diseases
- Care of the sleepy

- Workshop on interventional bronchology

- Symposias on:
  - Asthma
  - COPD
  - Smoking Cessation
  - Thrombombolic disease

Première annonce

- *Hypertension Artérielle Pulmonaire:*
  Un diagnostic précoce pour une meilleure prise en charge
- *Promouvoir et prévenir pour une meilleure santé pulmonaire*
- *Quelques sujets brulants en physiologie respiratoire*
- *Le support respiratoire en situation critique*
- *La génétique et les maladies pulmonaires*
- *Prise en charge de l'hypersomnie*

- *Atelier de travail:*
  Bronchologie interventionnelle

- *Symposiums:*
  - *Asthme*
  - *BPCO*
  - *Sevrage tabagique*
  - *Maladie thromboembolique*


Guides allergy patients' journey to wellness
30 Tablets
Schering-Plough
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Desloratadine
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