

FOCUS

PAPANICOLAOU SOCIETY OF CYTOPATHOLOGY

Companion Society of the United States and Canadian Academy of Pathology

Dedicated to Clinical Practice, Clinical Education and Clinical Research



From the Editors Desk

Vinod B. Shidham, MD, FRCPath, FIAC



It is time for the coming issue of Focus. As suggested by committee members this communication includes a

brief report from different PSC committees. In addition the readers will find the humanities corner very informative. Two quiz cases with their challenges are presented scattered in the issue.

Members are encouraged to send the articles or other contributions (eg. interesting images in cytology, book reviews) to me or any of the Focus editorial board members. For the June 2010 edition, associate editor of focus- Andrew Fischer is organizing an update on new micro biopsy devices (premarket phase) and an update on confocal endoscopy. The deadlines for submitting the contributions are flexible, but generally for June issues it is April 15 and for Dec issues it is Oct 15.

Happy reading of this and future issues of Focus!

Happy holidays!

Sincerely,

Vinod B. Shidham, MD, FRCPath, FIAC

PSC President's Message

Martha Bishop Pitman, M.D.



The Executive Board and Committees have been hard at work for the past 9 months. See the Committee Reports on page 4.

The PSC companion meeting will start with our afternoon session during 2010 USCAP Annual meeting in Washington, DC, Cells without Borders in the **Johnson Room, Mezzanine level**. This afternoon program focuses on the international outreach of the PSC. See details on page 7. Don't miss the PSC business meeting immediately following this program (same room) and on behalf of the PSC Executive Board, I cordially invite you to join us at the PSC reception starting at 5:30pm in the **Balcony B Room, Mezzanine level**.

For the first time in the history of the PSC, we are having a collaborative scientific program with the ASC

Con't on page 2

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Link download PSC membership application:

<http://www.papsociety.org/pscapp2009.pdf>

Focus is published by the Papanicolaou Society of Cytopathology

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The Humanities Corner

By Manon Auger, MD, FRCP(C)
McGill University Health Center
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In these times when we are so busy assessing where the future of cytopathology lies, I thought that it might be an opportune time to look back at where we come from.

After all: "The best way to suppose what may come, is to remember what is past". (George Savile, 1st Marquess of Halifax, 1633-1695, English politician and essayist).

Here is a short quiz on Dr. George Papanicolaou to gauge your knowledge about this extraordinary pioneer of our field. The answers with some explanations are on page 10.

Question 1

Where was Dr. George Papanicolaou born?

- a) New York, NY, USA
- b) Athens, Greece
- c) Kymi, Greece
- d) Monaco, Monaco

Question 2

Dr. George Papanicolaou was

- a) a pathologist
- b) a gynecologist
- c) an anatomist
- d) none of the above

Question 3

Dr. George Papanicolaou was the first one to describe the usefulness of cytology to diagnose cervical cancer:

- a) True
- b) False

Question 4

Where did Dr. Papanicolaou spend most of his career?

- a) Vincent Memorial Laboratory, Boston
- b) Papanicolaou Research Institute, Miami
- c) University of Munich, Germany
- d) Cornell Medical College, New York

For answer, please see page 10.

Con't from page 1

President's Message

spanning both Saturday (PSC) and Sunday (ASC) evenings which will cover in detail the current practice of thyroid FNA and diagnosis since the Bethesda State of the Science Conference on thyroid FNA in October, 2007. The Saturday Evening session will be held in room **Virginia** starting at 7 PM. Details of the program can be found on page 7.

Don't be late as the very beginning of the session will be an exciting one where the winners of the Yolanda Oertel Interventional Cytologist of the Year Award and the L.C. Tao Educator of the Year Award will be given.

Ballots are being created with an excellent slate of candidates. See the slate of candidates on page 5. Voting can be done via email or regular mail. The election will be open through January. PLEASE vote!!

Our PSC members have been busy donating their time and expertise on educational missions to Africa in support of the FNA Tutorials started by our executive board member, Dr. Andrew Field. In the past twelve months a five day tutorial was run in Nairobi at the Aga Khan Hospital with Andrew and Dr William Geddie from Toronto providing the faculty. At the end of March Andrew attended another tutorial and the inaugural meeting of the new West African Society of Cytology in Kano, Nigeria, before visiting and speaking on the role of FNAB at three university teaching hospitals in Lagos and Ibadan, Nigeria. These sessions are vital to improved patient care in the underserved areas of sub-Saharan, where FNAB and cytology in general are powerful and inexpensive diagnostic tools, once pathologists are trained in interpreting slides.

Drs David Chhieng and Tarik Elsheikh ran a four day fluids and gynecological tutorial in Kampala at the Makerere University with David going onto repeat his gynecological presentations in Nairobi at the Aga Khan Hospital. An additional two tutorials were held in October in Nairobi and Dar Es Salaam at Muhimbili Hospital with Andrew and Dr. Mina Desai, President of the British Society of Clinical Cytology providing the faculty. It is hoped that these tutorials will also provide the impetus for the establishment of an East African Society of Cytology shortly.

A five day FNAB tutorial from May 3 to 7, 2010, has been organized for Stellenbosch, South Africa, with Drs. Matthew Zarka, William Geddie and Andrew Field working on the faculty with Dr. Colleen Wright and her colleagues from Stellenbosch University. Registrants from North America and Europe are very welcome to attend intensive five day tutorial which will include the presentation of local experience in pediatric and infectious disease FNAB cytology. Dr. Field is very keen to expand the faculty and maintain the tutorials into 2010 and beyond, so any interested cytopathologists should contact him.

Despite some initial bumps in the road, the PSC book series, *Cytohistology of the Small Tissue Sample*, is viable and progressing. See details on page 5.

On behalf of the PSC Board of Directors, I extend to you a personal invitation to join the PSC and become an active member. Joining is easy! Check out our web site <http://www.papsociety.org> where you will find a membership application.

Happy Holidays and warm wishes for a Happy New Year!
Martha Pitman, President

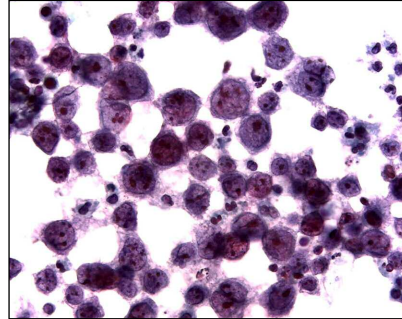
Quiz Case #1

A 69 year-old HIV-negative male with new onset of abdominal distension.

Fadi Brimo ¹, MD, Gizelle Popradi ², MD, René P. Michel ¹, MD, Manon Auger ^{1*}, MD
Department of Pathology ¹ and Division of Haematology ², McGill University and
McGill University Health Center, Montreal, Quebec, Canada.

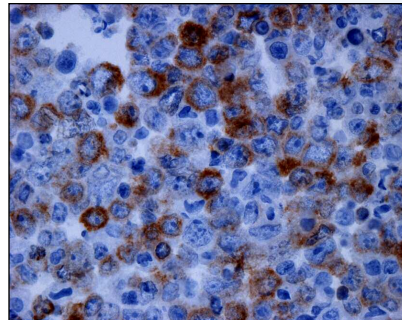
A 69 year-old HIV-negative man of Greek origin presented with new onset of abdominal distension, lower extremity edema, dyspnea, non-productive cough and upper gastrointestinal bleeding. Past medical history included schizophrenia, diabetes mellitus, hypertension, renal insufficiency and atrial fibrillation. Clinical examination revealed ascites in the absence of palpable adenopathy or hepatosplenomegaly. Complete blood count, liver function tests, lactate dehydrogenase and serum protein were within normal limits. Cytological examination of the peritoneal fluid was performed (Figure 1).

Figure 1. Cytology of the peritoneal fluid. Note the large cell size, the moderately abundant basophilic cytoplasm, the eccentric nuclear location in some cells, and the prominent nucleoli. Apoptotic bodies are also present (cytospin preparation, Papanicolaou stain X 600).



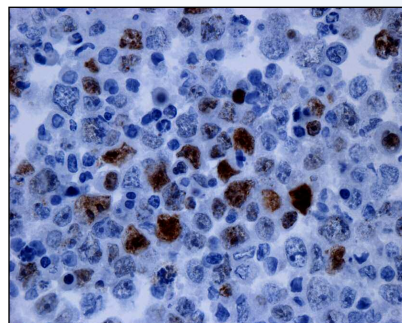
Immunohistochemical studies showed positive staining of the neoplastic cells for CD45 and cytoplasmic staining for the T-cell marker CD3 (Figure 2); staining for CD2, CD4, CD5, CD7 and CD43 were negative.

Figure 2. Immunocytochemistry performed on the cell block of the peritoneal fluid shows positive staining in the malignant cells for cytoplasmic CD3 (X 400)



Immunostains for the B-cell markers CD20, CD79a and PAX-5 were negative, as were ALK-1, bcl 2, bcl 6, CD10, CD138, and keratin AE1/3. Staining for Ki67 showed positivity in about 80% of the nuclei. Using an antibody directed against HHV8 latent nuclear antigen (LNA), there was positive staining in 25-30% of the neoplastic lymphocytes (Figure 3).

Figure 3. Immunostain for human herpes virus-8 performed on the cell block of the peritoneal fluid shows positivity in 25-30% of the malignant cells (X 400)



In addition, in situ hybridization for Epstein-Barr virus-encoded RNA (EBER) done on the cell block showed positivity in about 50-60% of the nuclei.

What is your interpretation?

(For answer see page # 9.

PSC Committee Reports

a. Standard of Practice Guideline Committee

Chair: Britt-Marie Ljung, MD

Starting in the fall of 2008 CAP started to assemble a two day course in ultrasound guided FNA (USFNA) sampling for pathologists. After completion of the course participants receive a certificate from the CAP. Three pathologists and an ultrasound technician served as experts to CAP in the process of putting this course together. The pathologists are Miguel Sanchez representing a private practice large hospital setting, Susan Rollins representing a freestanding independent practice and Britt-Marie Ljung representing an academic setting. Ultrasonographer Al Valentino covered topics including US physics and sonographic criteria for various entities and artifacts. Each course accommodates 12 participants, allowing for ample opportunity for one on one instruction in the practical aspects of imaging, guiding the needle to the area of interest and sample preparation technique. The course includes a mix of lectures, case presentation/discussion and hands on practice using phantoms and bench materials. Topics include all aspects of USFNA including how to prepare the patient, management of difficult/fearful patients, practical aspects of carrying out the procedure, reporting of results, communication with referring practitioners, billing/coding, establishing and building a successful USFNA practice etc. In order to receive the certificate the participants have to pass not only a cognitive test but also practical tests in imaging, needle placement and specimen preparation. A pilot course was given in June 2009 and the first official course was offered at the annual CAP meeting in Oct 2009. CAP is planning to offer the course biannually and the interest in the course so far has been high.

b. Publication Committee

Chair: Vinod B. Shidham, MD. FRCPath, FIAC

Focus, the forum for communication in the PSC, is published biannually in a standardized format. Since June 2009, Focus has been circulated FREE as a PDF to all PSC members. Previous editions are available at <http://www.papsociety.org/newsletters.html>. The electronic distribution is ecofriendly and economical. The cost of production is only \$35/page, a discount generously extended to us by the local publisher from the regular price of \$50/page. The cost is significantly lower than the previous \$5000/year cost for printed version to be circulated by snail mail. Articles or other contributions (eg. interesting images in cytology, book review) may be submitted to the Editor, Vinod Shidham. Articles in preparation for the June 2010 edition include an update on new (premarket phase) microbiopsy devices, and an update on confocal endoscopy. The deadlines are flexible, but generally for June issues it is April 15 and for Dec issues it is Oct 15.

c. Membership Committee:

Chair: Rosemary Tambouret, MD

There were 245 paid members of the Papanicolaou Society in 2009, the majority of whom reside in the United States (82%). Over 500 pathologists have been members in past years, so for 2010, an effort will be made to attract past members. Also, an increased effort will be made to recruit cytopathology fellows and residents interested in a career in cytopathology.

The benefits of membership include subscription to Diagnostic Cytopathology and access to the membership directory. The membership dues support the production of the biannual newsletter, Focus, and educational activities of the PSC which include on-line tools: the image atlas, the case of the month, the FNA technique video and power point presentations of past talks given at the USCAP PSC specialty conference. The Focus Newsletter provides timely updates on activities of the PSC, as well as upcoming events.

Please note that if you join prior to November in any given calendar year, your dues will be applied to that year and you will receive all back issues of Diagnostic Cytopathology for that year. Generally, if your dues are received after November 1, the dues will be applied to the following calendar year.

d. Scientific Program Committee

Chair: Zubair Baloch, MD, PhD

We are very excited about our first joint venture with the American Society of Cytopathology and think this expanded, multidisciplinary, in-depth coverage of a single topic over two evening sessions (03/20 – 03/21/2010) that emphasizes the role of cytology and small tissue biopsy in the diagnosis of thyroid disease will appeal all registrants of the USCAP (see *news/announcements page*).

Our 2010 combined scientific program is entitled: **"Fine-needle aspiration of Thyroid Lesions: Beyond NCI State of the Art Thyroid FNA Conference "**. We have five very dynamic speakers scheduled on 03/20/2010. The first two speakers will include an endocrinologist addressing the role of FNA in the management of thyroid nodules and the second talk will be delivered by a pathologist with expertise in molecular pathology especially endocrine pathology addressing the present and the future role of molecular testing in thyroid FNA specimens. These two talks will be followed by three case presentations given by junior faculty; which will highlight various diagnostic aspects of thyroid FNA cytology.

e. Research Committee

Chair: *Claire Michael, MD*

The purpose of the committee is to encourage quality research and exchange of ideas relevant to Cytopathology among pathologists-in-training. Its main task is to evaluate abstracts for the PSC Research Awards. For the PSC Research Awards, members of the research committee review cytopathology abstracts accepted for presentation at the USCAP annual meeting. Abstracts accepted for the USCAP Stowell-Orbison Award are automatically entered for the PSC Research Awards. All other cytopathology abstracts are entered if a valid application form is submitted to the chair of the research committee. Briefly, during the selection process the eligible abstracts are rendered anonymous by the chair of the research committee and scored by committee members based on novelty of idea, scientific and/or practical value and for the effort put in the study by the author.

f. Awards Committee:

Chair: *Andrea Abati, MD*

1.The Educator of the Year Award is presented to a Pathologist in recognition of his/her meritorious service, and contributions to the field of cytopathology education. The award is presented during the Papanicolaou Society of Cytopathology Companion Meeting held during the annual meeting of the United States and Canadian Academy of Pathology. The award also includes \$1,000.00 made possible by the generosity of Dr. L.C. Tao. Nominees for this award should have demonstrated significant contributions to the field of cytopathology education, including but not limited to: active participation in, or development of, exemplary training programs and educational activities at the state, regional and national levels. Any member of the Society may submit nominations to the Award Committee for consideration.

The Committee opened up the nominations for this award to the membership in June and voted on the final winner in the beginning of December 2009. The winner for 2010 is Kim Geisinger, M.D. The award will be presented at the evening session of the PSC at USCAP in Washington, D.C.

2.The Yolanda Oertel Interventional Cytopathologist Award is an annual award started to acknowledge the contribution of pathologists to the fine needle aspiration service. The award recognizes those who promote the use of fine needle aspiration, and encourage other pathologists to utilize fine needle aspiration. Any cytopathologist promoting or utilizing the fine needle aspiration service is eligible for the award. An international candidate will be considered once every four (4) years at a minimum.

The Committee opened up the nominations for this award to the membership in June and voted on the final winner in the beginning of December 2009. The winner for 2010 is Britt-Marie Ljung, M.D. The award will be presented at the evening session of the PSC at USCAP in Washington, D.C.

3.Lifetime Achievement Award: We are formulating criteria for a lifetime achievement award that will be presented to the EB in March. We are considering each of the following broad categories to come up with a set of criteria for this award:

1. Publications
2. Lectures
3. Impact on the field
4. International presence
5. Voluntary service to professional or humanitarian organizations

g. Nominating Committee:

Chair: *Stephen Raab, MD*

The Nominating Committee consists of the immediate 3 past-presidents of the PSC. The Committee opened up the nominations for election to the membership in October and voted on the final slate of nominees on the closing day. Nominees chosen to run for the Executive Board or for an Officer Position based solely on the amount of work that the potential candidate has done for the society. Committee Chairs are given priority to run for office. For the slate of nominees with biosketches, please see page 12.

Executive Board (2 positions):

Aylin Simsir (running for 2nd term)
Tarik El Shiek (running for 2nd term)
Philippe Vielh
Momin Siddiqui

Treasurer (1 position):

Eric Suba (graciously running for second term with the unanimous support of the Executive Board and Nominating Committee)

h. Budget and Finance Committee:

Chair: *William C. Faquin, M.D., Ph.D.*

The Papanicolaou Society's finances as of November 2009, show a cash balance of \$24,544.42 of which \$10,073.45 is in a CD yielding 1.9%. With 245 members, we have an estimated gross income of \$6125 from membership dues. Additionally, we receive \$6,000 per year as an educational grant from Cytyc. Our projected expenses for the 2010 year are expected to be similar to 2009 and are estimated at \$9989 including costs for the annual meeting, Focus, website maintenance, and awards.

Cytopathology Quiz Case #2

Figure 1

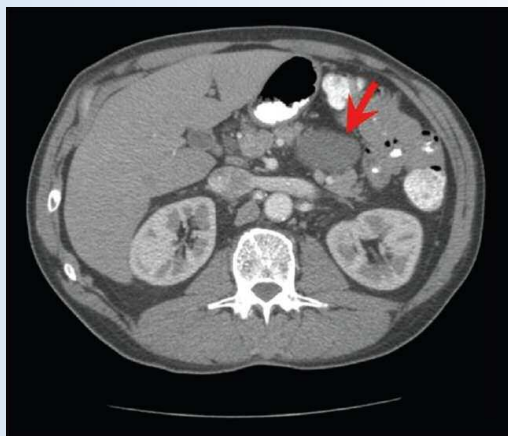


Figure 2

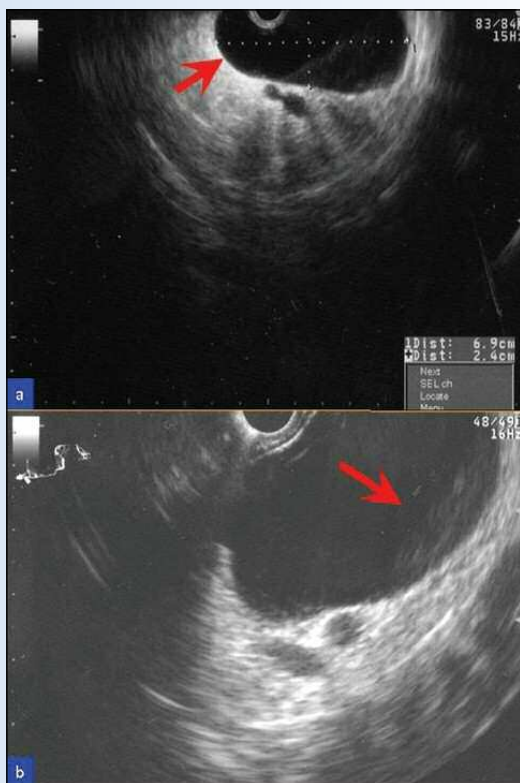


Figure 3

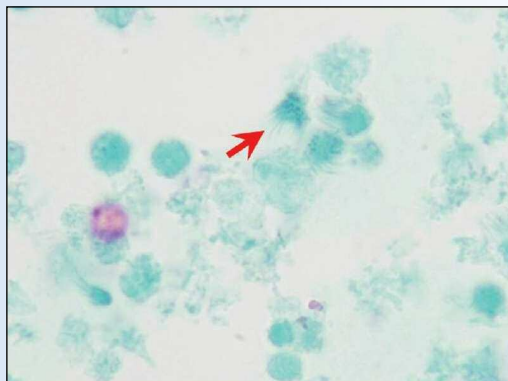
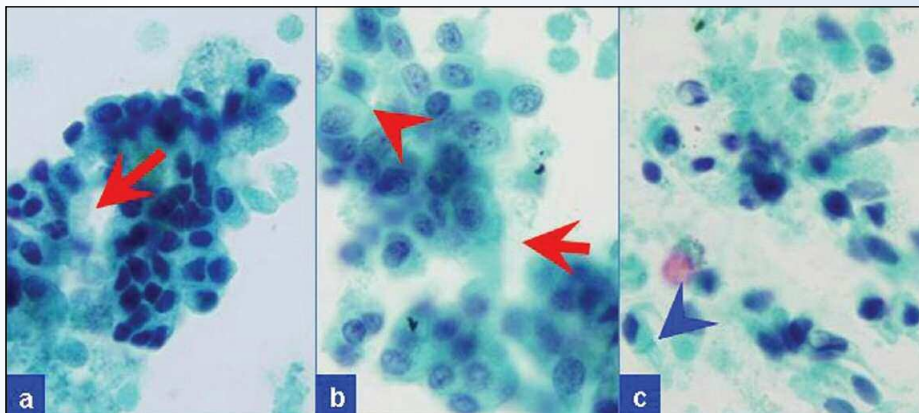


Figure 4



A 51-year-old male with solitary cystic lesion within the body/tail of the pancreas.

Bryan Hunt, MD; Vinod Shidham, MD, FIAC, FRCPath

A 51-year-old male with no significant past medical history presented with right upper quadrant abdominal pain that had been intermittent for the past four months. The pain was vague and transient in nature with no relation to oral intake or bowel movements. He noted a 16 pound unintentional weight loss over the past month due to food aversion. He also noted worsening post-prandial fullness/bloating without associated nausea or vomiting. His social history was significant only for consumption of one to two alcoholic drinks per day with no sustained periods of heavier use in the past.

CT scan of the abdomen revealed a 5.3 x 4.4 cm solitary cystic lesion within the body/tail of the pancreas (Figure 1). The remaining pancreatic parenchyma, liver, and gallbladder were all unremarkable. The radiologic differential diagnosis included a mucinous cystic lesion and a pseudocyst. Magnetic resonance cholangiopancreatography (MRCP) and endoscopic retrograde cholangiopancreatography (ERCP) showed a normal ductal system with no communication between the pancreatic duct and the cystic lesion. The patient was then referred for endoscopic ultrasound (EUS) evaluation.

EUS examination revealed a single 6.9 x 2.4 cm cystic lesion within the body/tail of the pancreas without septae or any solid component (Figure 2). The remaining pancreatic parenchyma and common bile duct were unremarkable. The pancreatic duct was within normal limits at 1.7 mm in diameter. EUS guided fine needle aspiration biopsy (EUS-FNA) was performed with a 22-gauge needle. Only a few drops of clear, extremely viscous fluid could be aspirated. Further studies on the cyst fluid including tumor markers, amylase, and lipase levels could not be performed due to insufficient material. A few direct smears were prepared and the needle was rinsed in CytoRich red fixative for subsequent preparation of liquid based cytology (LBC) slides utilizing SurePath technology. The specimens were sent for cytopathologic evaluation (Figures 3-4).

What is your diagnosis?

(see page #11)

2010 Combined Scientific Program

(Joint venture with the American Society of Cytopathology)

"Fine-needle aspiration of Thyroid Lesions: Beyond NCI State of the Art Thyroid FNA Conference " USCAP annual meeting 03/20/2010.

| | | |
|------------|--|---------------------|
| 7:00-7:15 | Introduction of program and panelists | Dr. Zubair Baloch |
| 7:15-7:45 | Endocrinologist View of role of FNA in the management of Thyroid Lesions | Dr. Susan Mandel |
| 7:45-8:15 | Molecular "Reflex" Testing of Thyroid FNA specimens. | Dr. Yuri Nikiforov |
| 8:15-8:40 | Questions and Answer session | |
| 8:40-9:00 | Case 1 – Presentation | Dr. Anjali Saqi |
| 9:00-9:20 | Case 2 – Presentation | Dr. Melina Flanagan |
| 9:20-9:40 | Case 3 – Presentation | Dr. Scott Boerner |
| 9:40-10:00 | Question and Answer Session | |

The PSC complies with ACGME requirements necessary for the granting of continuing medical education credits.

PSC International and Scientific Committee

The Cells without Borders

USCAP annual meeting- Sat. 3/20/2009, 2-4 PM

The program this year will focus on volunteer activities of pathologists and cytotechnologists in the developing world. The speakers will include Dr. Joe Harford, Director of the NCIs Office of International Affairs, who will speak on international opportunities for pathologists and cytologists; and Chiara Sugrue SCT (ASCP) from Long Island Jewish Hospital, who will speak on her role in the Italian pathology philanthropic organization, Patologi oltre Frontiera ("Pathologists without Borders").

State of the Science Summaries and Recommendations

Layfield, Lester [LAYFIEL@aruplab.com]

Over the past fifteen years, the Papanicolaou Society has published a series of position papers and recommendations regarding the diagnosis and handling of specimens obtained by fine-needle aspiration. These guidelines and reviews of the State of the Science have addressed among others fine-needle aspiration specimens obtained from the thyroid, lung and urinary tract. Recently, the National Cancer Institute has reviewed the State of the Science for fine-needle aspiration of the thyroid This thyroid consensus review will be the first in a new series of State of the Science summaries and recommendations sponsored by the Papanicolaou Society of Cytopathology.

FNAB Tutorial at Stellenbosch University

May 3 to 7, 2010

Under the auspices of Stellenbosch University, NHLS, South African Society for Clinical Cytology, the Papanicolaou Society and the International Academy of Cytology

Faculty: Professor Colleen Wright, Stellenbosch University and HHLS Tygerburg, and Drs. Pam Michelou, Mercia Louw, and Pawel Schubert, and Associate Professor Andrew Field, St Vincents Hospital, Sydney, Australia Dr William Geddie, University Health Network, Toronto, Canada and Dr Matthew Zarka, Mayo Clinic, Scottsdale, Arizona, USA

Program:

Monday 3/5

| | | |
|---------|--|---|
| 9:00am | Welcome | Professor Colleen Wright and Assoc. Professor Andrew Field All members of faculty |
| 9:15am | Introductory session on FNAB and smear making technique and Practical tutorial | |
| 11:00am | Clinical Demonstration of FNAB technique, smear making, rapid Diff Quik staining and microscopy with rapid assessment on palpable lesions | Professor Colleen Wright and local faculty |
| 1:30pm | FNAB Lymph Nodes & Lymphomas | Dr. William Geddie |
| 3:30pm | FNAB Lymph Nodes: Tutorial | Dr. William Geddie |
| 5:30pm | Finish | |

Tuesday 4/5

| | | |
|---------|--|---|
| 9:00am | FNAB Paediatrics | Professor Colleen Wright |
| 11:00am | FNAB Paediatric Tutorial | Professor Colleen Wright and Dr. P. Schubert |
| 1:30pm | FNAB Bone and Soft Tissue | Dr. Matthew Zarka |
| 3:30pm | FNAB Bone and Soft Tissue Tutorial | Dr. Matthew Zarka |
| 5:00pm | Review of Previous Days Cases from Clinical Demonstration | All Members of Faculty |

Wednesday 5/5

| | | |
|----------|--|-------------------------------------|
| 9:00am | FNAB Liver and Pancreas | Dr. Pam Michelou |
| 11:00 am | FNAB Liver and Pancreas Tutorial | Dr. Pam Michelou |
| 1:30pm | FNAB Infections: Lymph Nodes and Other sites | Dr. Mercia Louw |
| 3:30pm | FNAB Infections: Lymph Nodes Tutorial | Dr. Pam Michelou and Dr Mercia Louw |
| 5:30pm | Finish | |

Thursday 6/6

| | | |
|---------|------------------------------|-------------------------------|
| 9:00am | FNAB Breast Lecture | Assoc. Professor Andrew Field |
| 11:00am | FNAB Breast Tutorial Assoc | Assoc. Professor Andrew Field |
| 1:30pm | FNAB Salivary Gland Lecture | Dr. Matthew Zarka |
| 3:30pm | FNAB Salivary Gland Tutorial | Dr. Matthew Zarka |
| 5:30pm | Finish | |

Friday 7/5

| | | |
|---------|-----------------------|------------------------------|
| 9:00am | FNAB Thyroid Lecture | Assoc Professor Andrew Field |
| 11:00am | FNAB Thyroid Tutorial | Assoc Professor Andrew Field |
| 1:30pm | FNAB Problem Cases | Dr. William Geddie |
| 3:30pm | FNAB Problem Cases | Professor Colleen Wright |
| 5:00pm | Finish | |

For further information contact Dr Andrew Field at afield@stvincents.com.au

Quiz Case #1 (Answer)

A 69 year-old HIV-negative male with new onset of abdominal distension.

Fadi Brimo ¹, MD, Gizelle Popradi ², MD, René P. Michel ¹, MD, Manon Auger ^{1*}, MD

Department of Pathology ¹ and Division of Haematology ², McGill University and McGill University Health Center, Montreal, Quebec, Canada.

Diagnosis

Primary Effusion Lymphoma (PEL).

Follow-up

Despite anthracycline-based multi-agent chemotherapy (CHOP; cyclophosphamide, doxorubicin, vincristine and prednisone) plus continuous daily oral valganciclovir, the disease progressed. Within weeks of his initial discharge, the patient was readmitted with acute respiratory failure requiring non-invasive ventilation. Investigations revealed bilateral pleural effusions and a large pericardial effusion. Cytology from both the pericardial and pleural fluids was again consistent with PEL. After discussion of the poor prognosis and rapid progression of the patient's malignancy, a supportive care strategy was adopted. He died within 5 months of the initial diagnosis of PEL.

Discussion

In 2001, primary effusion lymphoma (PEL) was first introduced as an officially recognized and distinct entity in the World Health Organization (WHO) classification of neoplastic diseases of the haematopoietic and lymphoid tissues ¹. PEL refers to a large-cell non-Hodgkin lymphoma localized in body cavities and presenting as pleural, peritoneal or pericardial lymphomatous effusions. PEL is considered to be always associated with human herpesvirus 8 (HHV8) infection; therefore this term is restricted to those lymphomatous effusions that are associated with HHV8 ¹⁻⁴. It has been shown that the presence of the virus in the neoplastic cells can be demonstrated either by immunohistochemical methods using HHV8 LNA-1 latent protein antibody, or by molecular techniques such as PCR amplification or Southern blot analysis ⁴⁻¹². PEL typically involves only one body site, the most common being the pleural cavity; however, involvement of two body cavity sites has been reported in some series ^{1,2,4}. Although the majority of PEL cases affect human immunodeficiency virus (HIV)-positive patients, some cases have been reported in cancerous and cirrhotic patients or following solid organ transplantation, presumably leading to an immunosuppressed state in them ¹³⁻¹⁷. Rarely, PEL develops in immunocompetent populations in which it affects older individuals living in geographical areas with a high prevalence of HHV8 infection ^{3,18}.

PEL is a large-cell lymphoma with morphological features bridging immunoblastic and anaplastic large cell lymphomas (ALCL) ^{3,4}. Although it is generally of indeterminate phenotype immunohistochemically, it is considered to be a B-cell lymphoma by molecular studies ^{1-4,9}. It has been suggested that PEL is derived from post-germinal center B-cells approaching plasma cell differentiation, which explains its frequent expression of activation and plasma cell markers such as CD30, CD38, CD138, and EMA ¹⁹⁻²¹. Rarely, PEL aberrantly expresses T-cell markers or demonstrates T-cell receptor gene rearrangement ^{4,22,23}. Of note, of the 5 cases of PEL identified in our institution to date, three (including the current case)

were positive for T-cell markers by immunohistochemistry ⁴. Independent of the immunoprofile that cells from PEL display in individual cases, the key to diagnosis rests on identifying HHV8 in the neoplastic cells, using either immunohistochemical or molecular techniques ¹⁻⁴. Therefore, PEL is now considered part of the spectrum of HHV8-related lymphomas. These are divided into PEL when the site of involvement is the serous cavities, and 'solid PEL' or 'extracavitary PEL' which represents an HHV8-associated lymphoma presenting primarily as a solid mass without serous effusions, or preceding the development of an effusion lymphoma ^{21,32,33}.

To date, there is no standard treatment recommended for PEL, mainly due to its rarity. Routinely, CHOP (cyclophosphamide, doxorubicin, vincristine, and prednisolone)-like regimens are used, but the clinical outlook is generally extremely unfavorable, with a median survival of less than six months ². HAART (highly-active antiretroviral therapy) has been rarely used alone in the treatment of HIV-associated PEL, and some studies have reported long term survival up to 31 months following the diagnosis ^{34,35}. Other therapeutic approaches include antiviral medications with activity against EBV such as ganciclovir or intracavitary cidofovir, used alone or in combination with chemotherapy. Using these agents, durable remissions have been reported in some series ³⁶⁻³⁹.

Conclusion

Primary effusion lymphoma (PEL) is an HHV8-related lymphoma that can display variable immunocytochemical profiles. Therefore restricting the PEL terminology to those cases that are HHV8-positive is important to differentiate PEL from other lymphomas that can present as serous effusions and carry in general a more favorable prognosis.

Acknowledgement

All figures are courtesy of open access article - Brimo et al. CytoJournal 2009;6:2

References

The numbers cited in the text corresponds with the reference numbers in the original Open Access article:
Brimo Fadi, Popradi Gizelle, Michel Rene P, Auger Manon. Primary effusion lymphoma involving three body cavities. CytoJournal 2009, 6:21

Available FREE at:

<http://www.cytojournal.com/article.asp?issn=1742-6413;year=2009;volume=6;issue=1;page=21;epage=21;aurlast=Brimo>



The Humanities Corner

By Manon Auger, MD, FRCP(C)
McGill University Health Center and McGill University

Here are the **answers** with some explanations to the short quiz on Dr. George Papanicolaou.

Answer to Q1: C

Dr. Papanicolaou was born in 1883 in Kymi, a small town on the east coast of the Greek Aegean island Evia which is located very close to the mainland. From 1894 to 1904, he attended gymnasium, university and medical school in Athens. In 1911, he was hired as a physiologist at the Oceanographic Institute in Monaco where he stayed only for one year. Upon eruption of the Balkan war, he opted to enroll as a lieutenant in the Medical Corps in 1912-1913. He then decided to emigrate to the USA and arrived in New York on October 19, 1913.

Answer to Q2: C

After obtaining his medical degree in Athens in 1904, he went on to pursue studies in biology at the University of Munich where he obtained his PhD in 1910. He, in fact, was an anatomist with an interest in the endocrinology of the menstrual cycle, initially pursuing research on the cyclic changes of vaginal epithelial cells in response to hormones of the menstrual cycle, first in guinea pigs, then in humans.

Dr. Papanicolaou was not a pathologist and apparently knew relatively little of histologic diagnosis; this was probably one of the reasons why there was reluctance to accept his findings among pathologists who thought that it was easier to establish a diagnosis of cervical pathology by performing a biopsy rather than using this new cytological technique.

Dr. Papanicolaou, although not a gynecologist, collaborated with several gynecologists throughout his career, most notably with the Cornell gynecologist, Dr. Herbert Traut, who provided Dr. Papanicolaou with samples from patients from the gynecologic clinic when he decided to expand his research from guinea pigs to humans.

Answer to Q3: B

It is actually a Romanian pathologist, Dr. Aurel A. Babes (1886-1961), who first introduced cytologic samples of the uterine cervix for the diagnosis of cancer at least one year earlier than Dr. Papanicolaou through verbal presentations at meetings of the Society of Gynecology of Bucharest in January and April 1927 and who published a detailed account of his findings in April 1928 in *La Presse médicale*, a general medical journal. His work did not attract much attention because it was published in French, therefore limiting its audience. In addition, after this initial publication in that field, Dr. Babes did not continue his work with this cytologic technique; instead, he pursued other research interests and went on to publish several articles on a variety of other topics (eg. pellagra, typhus) and a textbook on general anatomic pathology.

While conducting his research on the hormonal effects of the menstrual cycle on human vaginal squamous cells and apparently unaware of Dr. Babes' work, Dr. Papanicolaou made the incidental observation that cancer cells derived from the uterine

cervix could be seen in samples from human vaginal smears. He presented this observation on January 4th 1928 at the Third Race Betterment Conference in Battle Creek, Michigan. Although he encountered much skepticism initially, he finally triggered the interest of the gynecologists after the publication of his famous monograph in 1943. In 1943, Dr. Papanicolaou ran what was probably the first clinical cytology clinic in the world for cervical cancer detection. This clinic, called the Kate Depew Strang Cancer Prevention Clinic, located across the street from Cornell at the Memorial Hospital, was founded by Dr. Elise Strang L'Esperance who was a pathologist and a student of Dr. James Ewing. Because at that time cervical cancer was the most prevalent fatal cancer in women, the American Society of Cancer also took interest and promoted the implementation of cervical cancer screening in the USA with what became known as the "Pap test". Incidentally, the Pap test is known as the "Méthode Babes-Papanicolaou" in Romania.

Answer to Q4: D

Dr. Papanicolaou spent most of his career in Cornell Medical College in New York. His association with the University of Munich was related to the fact that he pursued his studies there in biology where he obtained his PhD in 1910. Dr. Papanicolaou did not work at the Vincent Memorial Laboratory in Boston; however, there was early interest manifested by that laboratory in gynecologic cytology thanks to Dr. Ruth Graham, also an early pioneer in the field of cytology (more on her and other women cytology pioneers in a future issue of the Humanities Corner). In 1961, Dr. Papanicolaou became director of the Papanicolaou Research Institute in Miami, FL. Unfortunately, he died of a myocardial infarct on February 19th, 1962. At least he fulfilled his lifelong dream, to have his own research institute.

Acknowledgement:

Photographs of Dr. Papanicolaou are courtesy internet images.

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Quiz Case #2 (Answer)

Cytopathology Quiz Case# 2

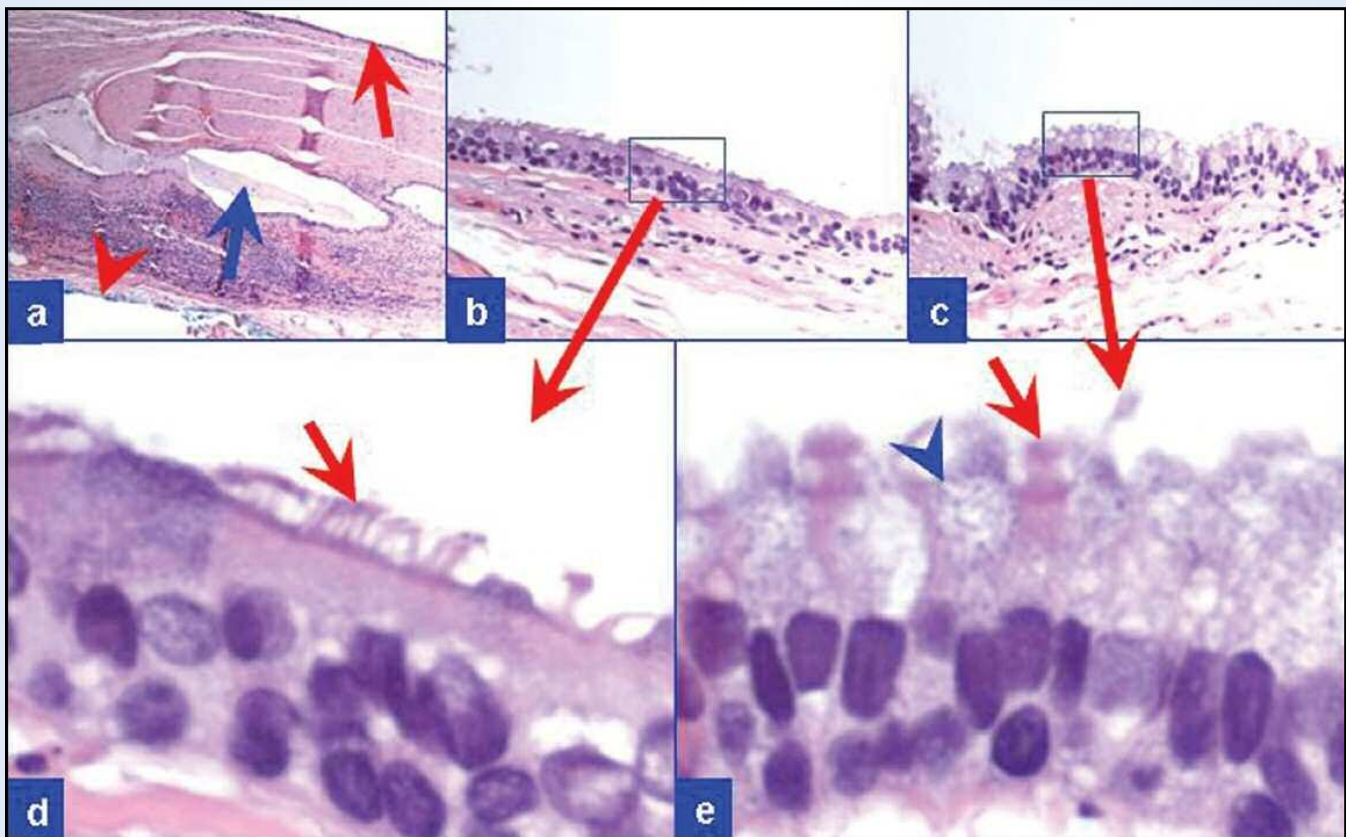
Bryan Hunt, MD; Vinod Shidham, MD, FIAC, FRCPath

Pathologic Diagnosis: Ciliated Foregut Cyst of the Pancreas

The extremely hypocellular direct smears did not have sufficient material for diagnostic interpretation. The liquid based cytology preparation (Figures 3-4) shows cellular debris and detached ciliary tufts (Figure 3, red arrow). There are rare small epithelial cell groups (Figure 4) showing cilia (Figure 4a,b; red arrows) (For more images of detached ciliary tufts, see original reference cited below) and a few ciliated cells with terminal bars (Figure 4b,c; arrowheads). The rare epithelial cell group (Figure 4) has orderly "honeycomb" architecture without significant anisonucleosis or nuclear overlap. The few viable epithelial cells present have a bland appearance with smooth nuclear margins, open chromatin, and small to indistinct nucleoli. There are no inflammatory cells, goblet cells, or squamous cells present in the specimen. These findings are all consistent with a benign ciliated foregut cyst of the pancreas. The patient had the lesion surgically resected for symptomatic relief. Histology (Figure 5) confirmed the cytologic diagnosis.

Ciliated foregut cysts are rare in the peripancreatic region, but are more common in the mediastinum. The classic histology of cysts lined by pseudostratified, ciliated columnar epithelium with occasional interspersed goblet cells (Figure 5) is present in both sites. The cytologic findings described above are typical of this entity. In the absence of symptoms, surgical excision is not generally indicated. Unfortunately, these rare lesions are often misdiagnosed as a mucinous cystic neoplasm both on radiology and cytology leading to unnecessary surgical resection.

Figure 5



Acknowledgement: All figures are courtesy open access article: Dug et al. CytoJournal 2009;6:22.

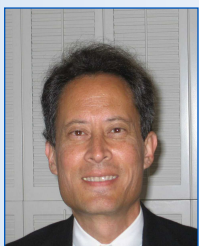
For references and further discussion please see the following article:

Dua KS, Vijayapal AS, Kengis J, Shidham VB. Ciliated foregut cyst of the pancreas: Preoperative diagnosis using endoscopic ultrasound guided fine needle aspiration cytology – A case report with a review of the literature. CytoJournal 2009;6:22.

Available FREE in open access from: <http://www.cytojournal.com/text.asp?2009/6/1/22/56362>

Candidates

CANDIDATES FOR TREASURER 2010



Eric Suba MD

As a general pathologist with Kaiser Permanente in San Francisco, CA, Eric Suba fully appreciates the mission of the Papanicolaou Society to bridge the gap between cytopathology and surgical pathology. Originally from Saint Louis, MO, Eric is a graduate of Princeton University and Washington University Medical School. He completed his residency at the University of Colorado followed by a fellowship in surgical pathology at Washington University. For the past 15 years, he has volunteered his spare time to help colleagues in Vietnam successfully develop highly effective Papanicolaou cytologic screening services for women in Vietnam. As Treasurer of the Papanicolaou Society, his goal will be to continue to manage our finances in manners that are, to the greatest extent possible, prudent, transparent, and paperless. He will also continue to develop relationships among the Papanicolaou Society and more-progressive healthcare colleagues and organizations in the developing world, where the benefits of cytology and surgical pathology are vast, yet largely untapped.

CANDIDATES FOR EXECUTIVE BOARD MEMBER-AT-LARGE 2010



Tarik Elsheikh, MD

For the past 12 years, Tarik Elsheikh has been the Director of Cytology at PA Labs and Ball Memorial Hospital, Muncie, IN. This is a 12-Pathologist private practice group serving several hospitals and numerous outpatient clients. Tarik was an assistant professor at East Carolina University for 4 years prior to that. Tarik completed his residency training at East Carolina University, and his Cytology Fellowship at William Beaumont Hospital.

Dr. Elsheikh has authored over 40 papers and 5 book chapters, and presented over 60 lectures and workshops at national and international meetings, including USCAP, ASC, and ASCP. He currently sits on the editorial boards of Cancer Cytopathology and Diagnostic Cytopathology, and is a reviewer for a number of other journals. He has served on several committees of the Papanicolaou Society of Cytopathology (PSC), including the Cytopathology Practice Guidelines Task Force, Cytopreparatory and Ancillary Techniques, Scientific Program Committee, and International Programs and Relations Committee. He has also chaired the Professional Issues Task Force. Currently, Dr. Elsheikh serves on the USCAP Educational committee and USCAP Foundation committee, and chairs the ASC Productivity and QA in Automated Screening Task Force.

Locally, Tarik served on the board of directors of several community charitable organizations, and the Chamber of Commerce, including Vice-Chair for Public and Government Relations. Tarik's hobbies and interests include travel, sports, films and fashion. Tarik is an avid Indianapolis Colts and Duke Blue devils fan.

Dr. Elsheikh has served on the PSC executive board for the past 2 years, and is seeking re-election. He believes that PSC's main mission is to bridge the gap between surgical pathology and cytology, both on the educational and political frontiers.



Momin Siddiqui, MD

Dr. Momin Siddiqui is an Associate Professor of Pathology and currently serves as the Divisional Director of Cytopathology as well as the Director of Cytopathology Fellowship Training Program at Emory University Hospital in Atlanta. He completed his residency at Loyola University Medical Center in Maywood, IL, followed by an oncologic surgical pathology fellowship at M.D. Anderson Cancer Center, and subsequently a cytopathology fellowship at UT Southwestern Medical Center in Dallas.

He has been an active member of the Papanicolaou Society of Cytopathology for many years and has served as Chair of the Education and Training Task Force from 2007 till 2009. In addition, he has also served on numerous committees for the American Society of Cytopathology and the USCAP. Dr. Siddiqui is currently an Editorial Board member of *Diagnostic Cytopathology*, *Cytojournal* and *International Journal of Clinical and Experimental Pathology*, and serves as an Associate Editor for the latter two journals.

Dr. Siddiqui has authored numerous publications and book chapters pertaining to cytopathology and fine needle aspiration cytology. He has also given numerous invited lectureships nationally and internationally. Dr. Siddiqui's goals as a member of the Executive Board would be to enhance the profile of the organization through collaboration with other national and international pathology and cytopathology societies by promoting educational workshops, resident and fellow mentorship, and increased membership outreach.

Candidates con't.



Aylin Simsir, MD

Dr. Simsir is currently an Associate Professor of Pathology and the Director of the Cytopathology Services at NYU Langone Medical Center and Bellevue Hospital in New York City. She is actively involved in several professional societies including the Papanicolaou Society of Cytopathology (PSC) and the American Society of Cytopathology (ASC). She has served on the Executive Committee of PSC for the last three years. She also chairs the Education Committee of the PSC which produces a monthly "case of the month" posted on the PSC web page, providing a unique educational opportunity for PSC members including presentation of an unknown case followed by multiple choice questions, explanatory text, list of pertinent literature, and correct answers. She has been an active participant of the PSC for more than years having served as the past editor of the Focus newsletter and member of several committees. Her interest lies in fine needle aspiration of the breast and gyn cytopathology. As the Director of one of the most active cytopathologist-run FNA services in the country, she believes the practice of cytopathology brings out the best in medicine: Bridging direct patient care and diagnostic pathology.



Philippe Viehl, MD

Philippe Viehl was born in the south of France. He graduated as an MD and a board-certified pathologist from the Faculty of Medicine in Paris, and as a PhD in immunology from the Institut Pasteur.

He served as Head of the Cytopathology Unit at the Institut Curie (Paris) for 13 years, then moved to the Institut Gustave Roussy (Villejuif), where he currently serves as Director of Cytopathology, a position he has held since 2003.

He is particularly interested in the study of the genomics and transcriptomics of breast and thyroid follicular tumors. He is author or co-author of more than 185 articles in refereed journals, 15 chapters and 4 books, and is the recipient of the 2007 L.C. Tao "Educator of the Year" award given by the Papanicolaou Society of Cytopathology.

President of the French Society of Cytology for 9 years (1996-2006), he chaired the 31st European Congress of Cytology in 2005, (Paris, France) where he was elected Secretary-General of the European Federation of Cytology Societies for a 3 year period, which was renewed in Lisbon in September 2009 following his re-election. He has also been Vice President of the International Academy of Cytology (IAC) since 2007, and will organize the 2013 IAC meeting in Paris.

Appeal to all PSC Members
Please Vote!

Papanicolaou Society of Cytopathology Companion Society Afternoon Events

Wardman Park Marriott Hotel, Washington DC

March 20, 2009

- 10:30- 1 PM **Executive Board Meeting (Officers and Executive Board only)**
- 2:00 - 4 PM **International Relations Committee Afternoon Session: Cells Without Borders
Room Johnson, Mezzanine level**
- Moderator: Eric Suba, M.D.
- International volunteer opportunities for pathologists and cytologists**
*Speaker: Joe Harford,
Director of the NCI Office of International Affairs*
- Patologi oltre Frontiera ("Pathologists without Borders")**
*Speaker: Chiara Sugrue SCT (ASCP)
Long Island Jewish Hospital, New Hyde Park, NY*
- 4:00 - 5 PM **Annual Business Meeting
Room Johnson, Mezzanine level**
- 5:30 – 7 PM **Cocktail Reception
Balcony B, Mezzanine level**
- 7:00 PM **Companion Society Evening Session**
- Fine-needle aspiration of Thyroid Lesions:
Beyond NCI State of the Art Thyroid FNA Conference
Room Virginia**
- Moderator: Zubair Baloch, MD , PhD
- Introduction**
*Speaker Zubair Baloch MD, PhD
University of Pennsylvania, Philadelphia PA*
- Endocrinologist View: The Role of FNA in the management of
Thyroid Lesions**
*Speaker: Susan Mandel MD
University of Pennsylvania, Philadelphia PA*
- Molecular "Reflex" Testing of Thyroid FNA specimens**
*Speaker: Yuri Nikiforov MD, PhD
University of Pittsburgh, Pittsburgh PA*
- Case Presentation**
*Speaker: Anjali Saqi MD
Columbia University Medical Center, New York, NY
Melina Flanagan MD
West Virginia University, Morgantown, West Virginia
Scott Boerner MD
University of Toronto, Toronto General Hospital, Toronto,
Ontario, Canada*
- Question and Answer**
Speaker: Zubair Baloch, MD , PhD

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