Editor’s Note

As you read this issue of the Society of Breast Imaging (SBI) newsletter, I hope that you have had a good summer. I think that it is important that everyone, especially breast imagers, take some siesta in the summer (or whenever vacation can be obtained).

As we are encouraged to do this and do that (and more of this and more of that) to satisfy institutional, state and federal requirements; generate lots of relative value units (RVUs); and sign our reports promptly – in addition to our regular day jobs of practicing breast imaging in a patient-centered, detail-oriented manner – life can become exhausting.

So, if you have not taken a vacation in a while, I encourage you to do so. Look at your practice schedule and take some time off. (Full disclosure: this piece is being written as I am flying to Hawaii for vacation!)

As summer winds down and we start to think about the academic year ahead, the SBI Newsletter Committee has undergone some modifications. Dr. Carl D’Orsi is rotating off of the editorial board after three decades of incredible service to the SBI. Carl is one of the six original founding members of the SBI in addition to being a SBI Gold Medal recipient. (See the article by Peter Eby on the founding of the SBI on page 8.) Sally Herschorn is also a rotating off of the editorial board. Sally wrote a great review on the National Conference on Breast Cancer (NCBC) for this issue (on page 12). Sally has been an industrious, energetic contributor, and we will miss her. Jimmy Vasek, who wrote the interesting mammography case presentation on page 24, is completing his term on the editorial team. Jimmy did a fantastic job on the newsletter committee.

Carl, Sally, and Jimmy—MANY THANKS FOR YOUR GREAT CONTRIBUTIONS!

Four new members have joined our editorial team: Shadi Aminolama-Shakeri, Jade de Guzman, Jessica Leung, and Ann Leylek. Dr. Aminolama-Shakeri is an assistant professor of radiology at the University of California Davis in Sacramento. Dr. de Guzman is an assistant professor of radiology at the University of California San Diego. Dr. Leung is the chief of breast imaging and the vice chair of radiology at California Pacific Medical Center in San Francisco. Dr. Leylek is a senior radiology resident at Beth Israel Deaconess Medical Center in Boston. I look forward to working with Shadi, Jade, Jessica, and Ann.

In addition, our former staff liaison, Catherine Dexter, has left the SBI. We thank Catherine for all of her help on the newsletter. Abray Stillson, the SBI Education Programs Manager, has jumped back into the frying pan to support the SBI newsletter. Abray has served in this capacity previously and she continues to do a fantastic job. Many thanks to Catherine for your dedicated service and welcome back Abray!

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### SBI News

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President’s Column: A Capital Idea

Webster’s dictionary defines advocacy as “the act or process of supporting a cause or proposal.” It defines lobbying as “an organized group of people who work together to influence government decisions that relate to a particular industry, issue, etc.” The Society of Breast Imaging (SBI) will partake in the former but not the latter (the American College of Radiology (ACR) does both). The SBI Board of Directors believes that advocacy is primarily an educational function whose purpose is to provide facts and background for groups who are in positions to effect change.

With that definition of advocacy in mind, I recently went to Washington D.C. for two meetings. The first occurred in April and was scheduled with Drs. David Meyers and Quyen Ngo-Metzger who work at the Agency for Healthcare Reform and Quality (AHRQ), which is funded by Congress and supervised by the Department of Health and Human Services. Unfortunately, Dr. Meyers did not participate due to illness. AHRQ is the body that provides ongoing administrative, research, technical, and dissemination support to the United States Preventive Services Task Force (USPSTF), the organization which establishes government recommendations for screening services including mammography. The Task Force is in the process of reviewing their 2009 mammography guidelines.

I was fortunate to have Dr. Mark Helvie, a friend and a SBI Board member, accompany me to the meeting. Mark and his co-authors have written numerous papers on breast cancer screening including several which showed that the Task Force’s recommendations were flawed and would cost the lives of thousands of women in this country if they were followed (1, 2). The purpose of our meeting was to educate the AHRQ staff, who in turn would educate the Task Force members about the importance of proper methodology for the Task Force’s mission.

With input from breast cancer screening experts such as Dr. Daniel Kopans, SBI Chair of Fellows, as well as Drs. Barbara Monskees and Debra Monticciolo from the ACR Breast Commission (Barbara, Chair of the Breast Commission, and Debra, Chair of the Quality and Safety Committee, also met with AHRQ on a separate occasion), Mark and I spent an hour with Dr. Ngo-Metzger and told her the following:

In order for the review process to have credibility, it needs to be transparent and the Task Force needs to include breast cancer specialists. The ACR Breast Commission and the SBI independently submitted a list of breast cancer screening experts with the hope that one or two would be included in the analysis. There were two key points in the review process where we wanted to have input. One was after the outside consultants who review the data had formulated their opinions and before the Task Force reviewed them. The second was after the Task Force had drafted their new recommendations and before these were posted for public comment. We also stressed that the analysis used to rate the data should be similar to that used by the Institute of Medicine and the strength of evidence should be properly weighted. We told Dr. Ngo-Metzger that the harms of screening needed to be compared to the harms of not screening, that quality population-based service screening studies, as well as metrics such as life years gained from screening and other positive benefits from screening such as reduced anxiety from a true negative result, needed to be included in the analysis. We left the meeting with the hope that the information we provided would be helpful to the Task Force.
The second meeting which occurred in mid-June was a Capitol Hill briefing with a group of congressional aides. Dr. Etta Pisano, Dean of the College of Medicine at the Medical University of South Carolina, organized the briefing and was kind enough to invite me. Also attending were Dr. Christopher Comstock from Memorial Sloan Kettering, Dr. Martin Yaffe, an imaging physicist from the University of Toronto and Dr. Robert Smith, a cancer epidemiologist from the American Cancer Society. Gloria Romanelli (government relations) and Pam Wilcox (executive vice president) from the ACR also attended. Fourteen aides to representatives and senators were present. They came from Georgia, South Carolina, Connecticut, Iowa, Wisconsin, Alabama, Ohio, Colorado and New York - a good mix of states.

Given the recent confusion American women are experiencing about screening mammography, our purpose was to educate the attendees about the facts regarding mammographic screening. Etta gave background information about screening and its associated technology. Chris talked about the roles of ultrasound and magnetic resonance imaging (MRI) in breast cancer screening. Bob talked about the hot topic of overdiagnosis. I reviewed Dr. Mark Helvie’s excellent recent paper in the journal Cancer which showed that the incidence of invasive cancers and the incidence of late-stage disease have decreased since mammographic screening began in this country (in contrast to the Bleyer and Welch article in the New England Journal of Medicine) (3, 4). Dr. Pisano gave a summation to conclude our five minute presentations. We then answered relevant questions from the aides for another fifteen minutes and then met informally with them afterwards.

Everyone felt that the briefing was productive. We hoped that the aides would take our information back to their respective legislators so they would become better informed about the facts surrounding breast cancer screening. We also reminded the aides to tell their bosses that Congress funds the USPSTF through the AHRQ and that they should pay attention to the Task Force’s current review process.

The SBI has always placed education at the forefront of its goals. Advocacy is a relatively new endeavor for us. However, if we want to continue to offer our patients the best, scientifically-proven breast cancer screening recommendations, we need to educate those who formulate government policy. I hope that these recent meetings in our nation’s capital will help to do this. The SBI leadership will continue to advocate on behalf of its members.

Murray Rebner, MD, FACP, FSBI
President, Society of Breast Imaging

References
**NAPBC Board Update**

*By Dana Smetherman, MD, MPH, FACR*

On June 13, 2014, the Board of the National Accreditation Program for Breast Centers (NAPBC), of which Drs. Jay Baker, Judy Destouet, Carl D’Orsi, Cheryl Herman, Peter Jokich, Jessica Leung, Dana Smetherman, and Gary Whitman are members, met by conference call. Since its inception, the NAPBC has grown to include 550 accredited breast centers with 128 centers undergoing reaccreditation. Since 2011, when board members representing the American College of Radiology (ACR) Breast Imaging Commission, the ACR Imaging Network, the American Institute of Radiologic Pathology (AIRP), and the Society of Breast Imaging (SBI) joined, it has been gratifying to see the impact of the radiology community on the NAPBC. Dr. Jokich participated in the NAPBC Strategic Planning Leadership Retreat in January 2014. In upcoming elections for leadership positions, the slate of candidates includes Dr. D’Orsi (for NAPBC Chair) and Drs. D’Orsi, Jokich, and Whitman (for Vice Chair).

After review of the minutes of the February 1, 2014 board meeting, there was an update regarding progress on the NAPBC goals (formulated at the Strategic Planning Leadership meeting) concerning brand leadership, organization survival/stability, evidence/data based value, collaboration with the Commission on Cancer and the American College of Surgeons, industry presence, growth, new products and services, and partnerships. The organization’s revised vision statement was presented as well as an updated definition of a breast center.

The board then discussed Standard 2.10 (Breast Ultrasonography) and variations in the accreditation requirements of the ACR and the American Society of Breast Surgeons (ASBS). Although review and revision of Standard 2.10 may be indicated, the board felt that the NAPBC should wait for the results of collaborative efforts currently being undertaken between the ACR and ASBS before embarking on any substantial changes.

The next agenda item was the announcement of an orientation program to familiarize newly appointed board members with the NAPBC organization and its accreditation process. In addition to orientation materials, new board members will have the opportunity to observe an accreditation survey site visit.

Next, each NAPBC committee gave its update. The Advocacy and Outreach Committee presented work on a proposed standard for patients with metastatic breast carcinoma. Then, information from the NAPBC’s Pursuing Excellence through Accreditation workshop on May 23, 2014 was reviewed by the Education and Dissemination Committee. The International Committee report highlighted the increasing interest from breast centers in other countries regarding partnership with NAPBC. The Standards and Accreditation Committee announced a survey for accredited centers concerning Standard 3.7, which requires review of all outside breast cancer pathology slides. In addition, a new standard on survivorship is complete and will be included in the next accreditation manual. The Standards and Accreditation Committee asked for volunteers for a work group to address the unique concerns and challenges of accreditation for centers with low patient volumes. Finally, the Quality Improvement and Information Technology (IT) Committee informed the board about the establishment of two vice chair positions. The board meeting concluded with the announcement of its next meeting on October 27, 2014 in San Francisco.
Dealing With Difficult People: Part 1

By W. Phil Evans, MD, FACR, FSBI – (Based on the works of Bill Crawford, PhD)

How to deal with difficult people is an important subject. Many books, articles, lectures, and videos have sought to provide the definitive response on this subject. I have found reports with eight tips, nine strategies, and ten keys for handling unreasonable and difficult people, and 17 tips to keep you sane. Obviously difficult people are a major issue!

The best information in my opinion comes from Bill Crawford, PhD, who has written and lectured extensively and has been featured on the Public Broadcasting Service (PBS). Dr. Crawford discusses how we deal with conflict and its underlying causes—how a simple disagreement can turn into a vicious cycle that feeds on itself. He emphasizes how to deal with a person in a way that not only resolves the conflict but also gets the person to hear what you have to say as valuable and to interact more proactively in the beginning to avoid conflict before it starts.

Difficult people have been characterized as rude, obnoxious, loud, arrogant, demanding, rigid, and crazy. When forced to deal with such a person, you may feel defensive, frustrated, reactive, withdrawn, superior, confused, or crazy. This behavior sets up the “cycle of conflict,” communication stops, and neither person listens to the other. One may even tell someone that you are the difficult person and spread negative information about you or your department or organization. This can be very stressful and even contagious. Conflict causes resentment, and as Dr. Crawford quotes Malachy McCourt, “resentment is like taking poison and waiting for the other person to die.” The first lesson to learn is that whenever we try to force anyone to change, they either resist us, or resent us, or both, and as a result become more motivated to defend their own position!

Our behavior is governed by certain “facts” of life. These facts are filtered through our beliefs that create our experience of life. These beliefs guide our interpretation of information that in turn directs expectations which subsequently result in emotions that generate certain behaviors. There are two types of difficult people: acutely difficult (can be anyone) and chronically difficult (the real problem). Chronically difficult people usually have low self esteem (may act high), and may believe that the world is not a safe place, and that trust and cooperation are dangerous. Their mantra may be “you made me feel this way,” but you must recognize that you did not.

To break the cycle of conflict, one must understand what Eric Hoffer said: “Compassion is the antitoxin of the soul: where there is compassion, even the most poisonous impulses remain relatively harmless.” In other words, resentment = poison and compassion = antitoxin. Albert Einstein said that “problems cannot be solved at the same level of awareness that created them.” Therefore, we must raise our awareness of what is behind the difficult behavior so we can deal with it effectively. Our goal: communicate both receptively and actively, so that the difficult person will give us the information we need.

In the next newsletter issue, in part 2 of this article, we will explore the reasons why others might be difficult and how to behave in order to stop conflict before it starts.
Breast imagers have always pursued continuous improvement of processes to provide quality health care. Over the past decade, practice quality and patient safety have become national priorities as evidenced by the Department of Health and Human Services and the Centers for Medicare and Medicaid Services development of Quality Initiatives directed to ensure quality healthcare “through accountability and public disclosure” (1). Insurance companies and patients have also taken a strong interest in the healthcare quality, and quality-based reimbursement through incentive payments, payment adjustments or a combination of both is becoming more prevalent, such as the Physician Quality Reporting System (PQRS) (2).

Part 4 of the American Board of Radiology (ABR) Maintenance of Certification (MOC) program encourages radiologists to demonstrate their commitment to practice quality improvement (PQI) through projects related to one of five categories including 1) patient safety, 2) accuracy of interpretation, 3) report timeliness, 4) practice guidelines and technical standards, and 5) referring physician surveys (3). Diplomates can work as individuals, as part of a group, or within an institution or organization for completion of PQI projects. ABR diplomates should complete at least one PQI project in the past three years at each annual look back, with the first annual look back in 2016 (3).

Each PQI project requires adherence to a four-step process as follows: 1) plan, 2) do, 3) study, and 4) act (PDSA) (3). The initial cycle obtains baseline data with subsequent cycles performed to evaluate implementation of quality improvement efforts or to determine maintenance of established quality performance. The “plan” phase is to identify an area of practice that may need improvement and determine a metric to evaluate this need (3). An optimal target metric should be set, and methods should be developed to obtain metric data. The “do” aspect of the cycle is the data collection process (3). Subsequently, in the “study” phase of the cycle, the data is reviewed to determine where the practice performance is in relation to the desired goal (3). If
the goal is not achieved, etiologies for failure to meet or exceed the goal are identified. The “act” phase of the cycle identifies opportunities for practice improvement to achieve the goal metric (3). An opportunity for improvement can be implemented and assessed with the next cycle of PDSA. Cycles can be repeated until the goal metric is achieved and subsequently to assess maintenance of improvement.

The Society of Breast Imaging (SBI) has two PQI projects approved by the ABR for members related to hand hygiene and post-procedure hematomas. The online projects guide the diplomate through the process and provide convenient data entry and data analysis. It is the responsibility of the participant to complete and maintain documentation of the project, and a PQI Recording Template for Individuals can be downloaded through the ABR website (3). Additionally, the diplomate is responsible for recording the project at myABR online.

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Upcoming Events & Activities

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The Society of Breast Imaging was created by Drs. Carl J. D’Orsi, Stephen A. Feig, Marc J. Homer, Harold “Hal” Moskowitz, Myron Moskowitz and Edward A. Sickles in 1985. On the eve of the 30th anniversary of the society, we thought it would be interesting to explore who, how and why the Society of Breast Imaging (SBI) was created. The six founding members were kind enough to share their stories with me.

Peter Eby: “In 1985, I was comfortably entrenched in high school in a small town in northern Illinois. Mammograms were the furthest thing from my mind. But for others, breast imaging was a very hot topic. Why did you think that a breast imaging society was needed?”

Hal Moskowitz: “Mammography made national news due to the malignancies of Margaretta “Happy” Rockefeller and Betty Ford in 1974. Our hospital had the only dedicated mammography machine in the area and we were doing mammograms from 6:00 AM to midnight. Mammography in the community was often poorly done and many radiologists didn’t have the training to adequately read the studies. This was frustrating, so I began to work with the Connecticut State Radiologic Society to set quality standards for the performance and the reading of mammography. We attempted to get the Connecticut standards adopted by the American College of Radiology (ACR) but our resolution was defeated.”

Ed Sickles: “In the early 1980s, the six founding members joined in partnership to put on postgraduate courses on breast imaging called Workshops in Mammography. We provided personal funds to hold several courses each year in different locations and shared the profits or losses.”

Stephen Feig: “Unlike the ACR and major medical centers, Workshops in Mammography had no full-time administrative staff support. Jan Moskowitz, Harold’s wife, was a licensed travel agent and was indispensable for finding good locations for our meetings, negotiating with hotels, developing brochures, and arranging travel for faculty and registrants. Even though our profit as owners was very modest, I consider Workshops as one of the best investments I have ever made in terms of its role of nurturing the development of our young subspecialty, especially since it led to the founding of SBI.”

Hal Moskowitz: “The most important reason for the formation of the SBI was the obvious need for mammography to have a significant voice in radiology. The creation of Workshops in Mammography clearly showed that radiologists and technologists were eager to learn how to do and read mammography better, but the establishment of national standards to improve the quality of mammography necessitated a political voice.”

Would you believe that the seed was planted in a hotel pool in Orlando, Florida?

Peter Eby: “Was there a moment or place or meeting that provided the setting for your commitment? Or was it all very gradual?”
The Birth of the SBI, continued from previous page

Myron Moskowitz: “The struggle early on was getting people to understand what screening was and which data were good. The Canadian study was out at that time, and quality was such a problem that we felt compelled to initiate a voice for training. In some ways, the SBI was a reaction to bad results and the need for improvements.”

Carl D’Orsi: “While at a Workshops in Mammography course in Orlando, Hal, Marc and I were actually in the hotel pool and we started talking about mammography and Hal said it would be a good idea to form a society. Marc and I thought it was a good idea and started to work on the concept.”

Marc Homer: “The first meeting of the six founding members of the SBI took place on April 24, 1985 in a restaurant in Boston during an American Roentgen Ray Society (ARRS) meeting. I chaired the meeting and Carl D’Orsi acted as secretary. Marc Homer was nominated for president, Carl D’Orsi was nominated for vice president, and Hal Moskowitz was nominated for secretary-treasurer. We created a letter of invitation for other radiologists to join our newly formed society and adopted a constitution and by-laws.”

Ed Sickles: “When the SBI was formed, its activity was completely separate from the ongoing Workshops in Mammography courses. Marc proposed, and we agreed, that the principal focus of the society initially would be informal but spirited discussion at national radiology meetings, such as the Radiological Society of North America (RSNA), of key breast imaging issues among interested colleagues.”

Marc Homer: “On November 19, 1985 at 4:00 PM, at the Hyatt Regency Hotel in Chicago, during RSNA, 21 radiologists attended the second meeting of the SBI. It was unanimously approved that membership would be limited to 100 and a $100 initiation fee would be paid by each member to fund the future expenses of the society.”

Carl D’orsi: “We had very early meetings and decided that the society focus should be research and education. Kudos to Marc for really doing a tremendous amount of work to organize the society and get it started. The only issue was that he demanded that our correspondence be light green, his favorite color!”

Marc Homer: “Green is my favorite color and lime is my favorite flavor. The initial stationery was light green and the printing was dark green.

Table 1. The first 31 physicians (alphabetical order) invited to join the founders at the meeting of the SBI on November 19, 1985 at the Hyatt Regency Hotel in Chicago during RSNA.

1. Franklin Alcorn
2. Ingvar Andersson
3. Royal Bartrum, Jr.
4. Lawrence Bassett
5. Thomas Carlile
6. Catherine Cole-Beuglet
7. Gerald Dodd, Jr.
8. Robert Egan
9. Gloria Frankl
10. Irwin Freundlich
11. John Gisvold
12. Richard Gold
13. Walther Hoeffken
14. Harold Isard
15. Lester Kalisher
16. Daniel Kopans
17. Marton Lanyi
18. Richard Lester
19. Herman Libshitz
20. Wende Logan-Young
21. Bengt Lundgren
22. John Martin
23. Robert McLelldand
24. Marjorie McSweeney
25. Jack Meyer
26. David Paulus
27. Norman Sadowsky
28. Phil Strax
29. Laszlo Tabar
30. Barbara Threatt
31. John Wolfe
I am surprised that Carl remembered this!

**The formation of the SBI, like most things in medicine, was not without some opposition.**

**Peter Eby:** “Who were your opponents at the time? Did any of you have a nemesis? Was there a group nemesis?”

**Marc Homer:** “I don’t think younger people know what a challenge creating this society was. The people in breast imaging at that time were often less than collegial. There were many bitter debates going on around film versus thermography versus xeromammography. Carl was a big xeromammography advocate but we let him be a founding member anyway! I believe that the disagreements were often so intense because they reflected the real passion of radiologists in this field.”

**Ed Sickles:** “The initial issue may have been that the chair of the ACR breast cancer committee was not included among founding SBI members. However, at about the time we founded the SBI, he was added to the invited faculty of the *Workshops in Mammography* courses, which likely helped somewhat.”

**Stephen Feig:** “At one of the early SBI organizational meetings, the ACR Breast Committee chair sent an ACR staffer as an observer. She was quickly spotted and asked to leave the room.”

**Carl D’Orsi:** “We did have a lot of pushback from the chair of the ACR breast cancer committee. I think there was a fear that educational meetings on breast might interfere with ACR meetings on breast. To help that situation, we alternated SBI and ACR breast imaging meetings.”

**Marc Homer:** “I thought it was a real victory, in even getting many of these radiologists, who were often quite hostile to each other, to agree to be in the same room!”

**There is universal agreement regarding one of the most prescient early choices.**

**Peter Eby:** “Was there a direction that you chose as a group that in retrospect seems to have turned out to be brilliant? Or fruitless? Can you recall a suggestion that one of the other founding members made that was particularly keen?”

**Carl D’orsi:** “We allowed for non-physicians to become honorary members.”

**Ed Sickles:** “I think the best decision down the line was to expand SBI membership to include general members. This decision was made during the year that I was president of the SBI, and in my opinion, it constitutes my major contribution to the SBI. The net result was a membership of more than 2000, which gave breast imaging clout among other radiology subspecialty societies and a large amount of dues-supported money to engage in educational and research activities.”

**Hal Moskowitz:** “Initially, the society was a small closed group of the most prominent radiologists who were performing mammography. The decision to open the society and create a tier of fellows and members significantly increased the importance and clout of the society.”

**Stephen Feig:** “The first several SBI meetings were cramped into an evening at RSNA. In 1993, we had our first stand-alone conference at the Ritz Carlton on Amelia Island, Florida. Attendance was opened to everyone. We were all very excited to have an unexpectedly spectacular number of registrants. Clearly, SBI was fulfilling a pent up need among breast imagers.”
With 30 years of perspective, founding the SBI was the right thing to do at the right time.

**Peter Eby:** “How do you feel about launching the SBI? Was it the culmination of your life’s work? Was it fun but otherwise unremarkable? Is there anything that you would change if you could go back and do it again?”

**Ed Sickles:** “As mammography usage became more widespread, and demand for mammography continuing medical education ballooned, universities and private organizations out-competed *Workshops in Mammography* in producing courses, leading to its demise. However, by then, the SBI was firmly established so it was already on track to become what it is today.”

**Carl D’Orsi:** “The SBI allowed a unified voice for breast imaging, which for a long time had been ignored and even ridiculed.”

**Marc Homer:** “In retrospect, I certainly consider it to be among one of my proudest achievements now seeing how successful we were.”

**Stephen Feig:** “Founding the SBI was a pivotal step which raised breast imaging to the same level of visibility as other subspecialties. It was equal in importance to subsequent initiatives such as including mammography as one of the 10 subspecialty categories on the American Board of Radiology (ABR) oral examination, development of the ACR Mammography Accreditation Program, or publishing the first Breast Imaging Reporting and Data System (BI-RADS®) Atlas.”

**Peter Eby:** “I think that I can safely speak for radiologists, physicists, technologists and patients when I say thank you to the founders and early members for creating a forum for us to discuss, advocate and strive for quality and safety in breast imaging. Table 1 lists the 31 physicians invited to attend the second meeting of the SBI. We are publishing the list for the first time in order to recognize the individuals who provided early support for the SBI.”

For more information about the early years of the SBI, see the articles written by Marc Homer for the SBI Newsletter in Summer 2013 (*The Early History of The Society of Breast Imaging: The First Five Years*) and January 2000 (*The Early History of The Society of Breast Imaging: 1984-1989*).
NCBC Summary

By Sally Herschorn, MD

I was privileged to attend the 36th and final National Conference on Breast Cancer (NCBC) meeting held this year in Phoenix. The resort was beautiful and the sunny, warm weather was a wonderful break from a very long, cold winter. The syllabus was downloaded entirely on an application on a tablet computer, making it easy to follow the great presentations.

Thursday morning’s sessions began with a presentation by Dr. Ed Sickles on the Current State of Breast Density. He reviewed the legislation, factors affecting the classification of density, associated risks, 2013 Breast Imaging and Data System (BI-RADS®) nomenclature and advice on how to classify borderline cases. This presentation was followed by Supplemental Screening with Ultrasound (US) and Magnetic Resonance imaging (MRI) by Dr. Carol Lee. She reviewed the data on screening women with dense breasts with both techniques and introduced the concept of an abridged MRI protocol, potentially useful in the future to screen more women and to decrease imaging costs. Dr. David Dershaw then discussed Supplemental Screening with Other Modalities, including tomosynthesis (pros and cons), contrast-enhanced mammography and molecular breast imaging (MBI). Dr. Mark Helvie then presented Screening Controversies, which focused on how often to screen and the evidence for annual screening for women age 40 years and greater (compared with biennial screening for women age 50-74 years).

Dr. Dan Kopans then gave the Wendell Scott lecture on Perspectives on Overdiagnosis in Breast Cancer. It is always inspiring to hear Dr. Kopans speak on this subject, dispelling myths propagated in prestigious medical journals and in the media. He showed how data can be twisted and presented to show a point of view that was never intended by the original research studies. His unflagging passion, commitment and scientific knowledge on this topic are amazing. After Self-Assessment Modules (SAMs) and a Question and Answer (Q&A) session and lunch, optional afternoon workshops included Breast MRI Cases, Economics, Optimizing the US Exam, Multimodality Cases, Breast Asymmetries, MRI Biopsy, and Practical Issues in Whole Breast US.

Friday morning began with a BI-RADS® Update given by Dr. Sickles, highlighting the important differences between the new BI-RADS and the 2003 BI-RADS and giving tips about where in the BI-RADS manual to get more information on particular topics. Dr. Wendie Berg then gave a talk...
entitled What Can US do for my Patients? This presentation gave excellent tips on how to optimally use US in the work-up of screening and diagnostic (symptomatic) patients. Dr. Debra Monticciolo then spoke about Medical Legal Issues in Breast Imaging. Dr. Michael Linver followed with Implementing Tomosynthesis (DBT) into Your Practice. This was a very comprehensive review of all aspects of DBT; including efficacy, screening and diagnostic implementation, logistical issues, billing, workflow and workload, marketing, costs, and cost savings. After a break, Dr. Phil Evans discussed the Politics of Screening, followed by a comprehensive review by Dr. Geraldine McGinty on the Economics of Breast Imaging. SAMs and Q&A sessions followed. After lunch, the following optional workshops were available: Breast MRI Cases, Tomosynthesis Case Review, Dealing with Difficult Patients, Calcifications and Ductal Carcinoma in Situ (DCIS), Multimodality Cases, US Challenging Cases, American College of Radiology (ACR) Accreditation and Federal Requirements, Molecular Profiling Breast Cancer Markers, and Breast Imaging Auditing.

On the last morning of the conference, Dr. Sickles discussed Screening Mammography Interpretation at the Threshold of Recall. With all the emphasis on recall rates, breast imagers are, after all, primarily tasked with finding early breast cancer. He emphasized that if you are not sure, it is better to recall. Once you have more experience and have a satisfactory detection rate, you can work on reducing your recall rate. Dr. Elissa Price discussed the Optimal Utilization of BI-RADS 3. This excellent talk detailed the specific evidence-based diagnostic (always after work-up following screening) mammography scenarios in which BI-RADS 3 is appropriate and well supported by scientific evidence. In US there is robust evidence for short interval follow-up of two specific scenarios and there are certain unproven scenarios in which BI-RADS 3 may be used by those with expertise, and audit support for these is strongly recommended. We should “proceed with caution” in assigning MRI findings to short interval follow-up due to the lack of evidence for specific MRI findings that have shown a less than 2% subsequent rate of malignancy. All of these specific scenarios are detailed in the 2013 BI-RADS manual along with the references which will be updated online as they evolve. Dr. Monticiollo then presented Challenging MR Cases and Dr. Heidi Umphrey gave a great discussion on High Risk Lesions.

The conference concluded with more SAMs and a case review with the experts. During Dr. Mike Linver’s last talk, in honor of this being the last NCBC meeting, he had everyone join him in singing the Intraductal Papilloma Song, which he wrote. This very amusing piece is sung to the tune of Supercalifragilisticexpialidocious. (Lyrics can be found on SBI’s Facebook and Twitter accounts). Next year, replacing the NCBC meeting, the Society of Breast Imaging (SBI)/American College of Radiology (ACR) Breast Imaging Symposium will take place in Orlando, and it will include a scientific program. Annual meetings thereafter are planned.
The American College of Radiology (ACR) Annual Meeting and Chapter Leadership Conference (AMCLC) was held in Washington, DC on April 26-30. The meeting provided education on business and policy making in radiology, along with opportunities for networking and advocacy. A full day continuing medical education course was held on Saturday, titled Radiologic-Pathologic Correlation in Genitourinary, Neuroradiology and Musculoskeletal Imaging. Also, a course for residents and fellows was held on Saturday, along with an afternoon course titled, The future of Radiation Oncology in the World of Value-Based Care. Over 250 radiologists in training attended the conference.

In the ACR Council, with 339 subspecialty society representatives and chapter representatives, debates were held on issues and concerns of vital importance to radiology. The ACR Council considered resolutions, creating and maintaining current ACR policies and deliberated over changes to the ACR bylaws and ACR practice guidelines and technical standards.

On Sunday, the meeting continued with the ACR Council convening along with multiple committee meetings and the New Fellow Convocation in the evening. At the Convocation, the ACR Gold Medal and Honorary ACR Fellowships were awarded.

Advocacy plays a very important part in this meeting with the last day of the conference involving a visit to Capitol Hill for the ACR representatives to meet with members of Congress and Congressional staff. The members visiting Capitol Hill were briefed on the current issues and concerns earlier in the week prior to the visit.

Dr. Albert Blumberg gave the Presidential address, and Dr. Michael E. Porter, the Bishop William Lawrence University Professor at Harvard Business School, presented the Robert D. Moreton lecture. On Tuesday, the Keynote speaker during the noon luncheon was Helen Darling, the president of the National Business Group on Health (NBGH). Her topic was Controlling Costs and Improving Healthcare: What Physicians and Employers can do Together.

The reference committees gave their reports on Monday and Tuesday. Also, on Monday and Tuesday, there were reports from the ACR Board of Chancellors; the ACR chief executive officer, William T. Thorwarth, Jr., M.D.; and other ACR leaders.

Reference committee I encompassed specific Commissions, Committees and Task forces, including the Commission on Breast Imaging, which reviewed and presented Resolution 6, ACR Practice Guideline for the Performance of Stereotactic Guided Breast Interventional Procedures and Resolution 7, ACR Practice Guideline for the Performance of Ultrasound Guided Percutaneous Breast Interventional Procedures. Additions and changes to the wording of both breast biopsy guidelines were made.

Overall, the ACR AMCLC was informative, educational and, most importantly, enlightening regarding the issues facing radiology in the future.
There are exciting changes regarding the 2015 Society of Breast Imaging (SBI) Spring Meeting. After 11 successful Biennial Postgraduate meetings within 30 years since the inception of the SBI, the meeting is now an annual meeting. The meeting has also undergone a name change to the SBI/American College of Radiology (ACR) Breast Imaging Symposium. The Symposium is a merger of the SBI Postgraduate Course and the ACR National Conference on Breast Cancer (NCBC). The Symposium will be the same meeting you are used to; however, you will now have the option to come every year. In these rapidly changing times with continuously advancing technology, the SBI Board of Directors felt that it was time to support an annual event. The Program Committee for the first annual SBI/ACR Breast Imaging Symposium has worked hard to bring you an excellent meeting.

One additional important new change that should be highlighted is that the meeting will now accept Scientific Abstracts (due on December 12th). Accepted abstracts will be selected by a committee and will be presented orally during one of the workshop sessions on the first three days or presented as electronic posters. There will be a prize for the best medical student/resident abstract and the best fellow abstract. We are hoping that this will be popular with the younger members and the members in training as well as international participants. Day 1 will be devoted to Screening as the topic is still in the headlines and it is the cornerstone of the mission of the SBI. The format will follow the same as in the past with plenary sessions in the morning and workshops in the afternoon. On Day 1, tomosynthesis will be addressed and essential basic facts about screening.

REGISTER TODAY!

SBI Spring 2015 Meeting

By Elizabeth A. Morris, MD, FACP, FSBI

April 25-28, 2015 Hilton Bonnet Creek Orlando, Florida

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The Member Newsletter of the Society of Breast Imaging

**SBI Spring 2015 Meeting, continued from previous page**

will be reviewed and explained by several luminaries. Day 2 will explore the Biology of Breast Cancer – The Molecular Imperative, a must for any radiologist practicing today. The various types of breast cancer will be explained and controversies in DCIS detection and management will be addressed. Day 3 is titled Beyond Population Screening, and the plenary session will be devoted to the high risk individual and breast density. Day 4 will cover Emerging Technologies where exciting new technologies will be discussed and put in context.

We are continuing our popular debate format. There will be two debates: Breast Density as a Risk Factor (Real Versus Perceived) and Automated Breast Ultrasound (ABUS) Versus Hand-held: What Should I use if I’m Going to Screen? There will also be a Breast Imaging reporting and Data System (BI-RADS®) panel in the plenary session as the new edition of BI-RADS® has come out since the last meeting and there will many questions.

The Keynote Lecture will be by Dr. Lisa Newman, a breast surgeon from the University of Michigan, who will speak about Disparities in Breast Cancer. Dr. Kevin Hughes, a breast surgeon from Massachusetts General Hospital will address Risk Assessment Models and Dr. Laura Collins, a pathologist from Beth Israel Deaconess Medical Center in Boston will educate us on the Biology of Breast Cancer. We are continuing our international relationship with EUSOBI and have two excellent lecture topics on Experience in European Magnetic Resonance Imaging (MRI) Trials by Dr. Francesco Sardanelli and Advanced Applications of MRI by Dr. Thomas Helbich, the president and the past president of the European Society of Breast Imaging (EUSOBI), respectively.

A brand new workshop will be offered every day, concurrently with the regularly scheduled plenary and breakout sessions, called PERFORMS. PERFORMS is an enriched test set of actual screening digital mammograms developed in the United Kingdom (UK). These have been shown to breast imaging radiologists in the UK as part of annual performance assessments. Sign up to see how well you do! You will be able to sign up for one hour blocks throughout the meeting. You can choose to have your results emailed to you at the end of the meeting and your results can be compared to the United States radiologists taking the cases at the SBI meeting as well as the UK radiologists.

We have an impressive lineup of speakers to cover all the various topics from How to Implement Digital Breast Tomosynthesis (DBT) and DBT Biopsy in Your Practice to How to Talk to Patients. We hope you will join us April 15-28th 2015 in Orlando! See you there!

[Like, Follow, and Join SBI on Social Media]

[www.SBI-online.org]
The Society of Breast Imaging (SBI) is pleased to announce that there will be a Scientific Program at the annual breast imaging conferences, beginning with the upcoming SBI/American College of Radiology (ACR) Breast Imaging Symposium in April, 2015 in Orlando. This newly offered Scientific Program will include both oral and poster presentations and it should provide an important opportunity to share original breast imaging research.

To be considered, abstracts must present scientific research that has not previously been published or presented. Abstracts based on hypothesis-driven or descriptive research with defined results are emphasized. Abstracts may be submitted by trainees or in-practice physicians or scientists, and research will be selected for oral or poster presentations on the basis of scientific merit. Submission is via an online process that is easily accessed through the SBI website. The submission process is currently open, and the deadline for abstract submissions is December 12, 2014. Notification of acceptance will be made by mid-December, 2014. For complete information about the abstract guidelines and the submission process and information regarding how to submit an abstract, please go to www.sbi-online.org.

To recognize and encourage the research efforts of our trainees, the SBI will award two trainee prizes for accepted abstracts: one to a medical student/resident (at the time of submission) and one to a fellow in training (at the time of submission). Research prizes include $1,000 and a plaque to each winning medical student/resident and fellow. In addition, all abstract and poster presenters are invited to attend the SBI/ACR Breast Imaging Symposium free of course registration charges.

We hope that you and your colleagues will consider submitting interesting original research for this new Scientific Program, and we look forward to seeing you in Orlando in April, 2015.

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2015 Case-Based Review & Advanced Breast Imaging Course: DIGITAL BREAST TOMOSYNTHESIS

January 17-18, 2015
Orlando, FL

September 26-27, 2015
San Diego, CA
ARRS Great Debate: The Role of Breast MRI in Preoperative Staging

By Huong Le-Petross, MD

The 2014 American Roentgen Ray Society (ARRS) Great Debate focused on the role of breast magnetic resonance imaging (MRI) in preoperative staging. The debate was moderated by Dr. Stamatia Destounis from Rochester, New York.

The first part of the debate, presented by Dr. Chris Comstock from Memorial Sloan-Kettering Cancer Center, provided an overview of published trials, demonstrating the ability of breast MRI to detect additional lesions not seen on mammography or ultrasound, as well as contralateral breast carcinoma not visible by mammography or ultrasound. A paper by Bedrosian and colleagues demonstrated that contralateral prophylactic mastectomy was associated with a 4.8% five-year-adjusted breast cancer survival benefit (1). This supports the need to detect contralateral breast carcinoma in women with newly diagnosed breast cancer. It is interesting that this rate is close to the reported rate of 3.1% to 5% for MRI-detected breast cancer in the contralateral breast missed by mammography (2-3).

Other positive attributes of breast MRI include the ability to evaluate response to therapy, the evaluation of chest wall involvement, and the detection of axillary, infraclavicular, supraclavicular, and internal mammary nodal disease. Questions remain regarding MRI’s ability to improve surgical margin status and survival. The impact of MRI on clear surgical margins remains controversial. With regards to survival, it would be unlikely that trials with survival endpoints would be performed in the United States due to high costs and the long follow-up period needed.

The argument against MRI was presented by Dr. Peter Eby from Seattle. In his discussion, he utilized the following formula to demonstrate some of the concerns and beliefs against breast MRI:

References
The number one goal of any health care system is to deliver the maximum value to the patient (4). Value is measured by the set of outcomes that matter to patients (4). Dr. Eby noted that radiologists must become more involved in focusing on the patient and the entire health care value chain. For service, there are the additional cancers that MRI is able to detect. Even though MRI has the highest sensitivity compared to mammography or ultrasound, what is the benefit of MRI with regard to recurrent disease or survival? A paper by Solin and colleagues (5) as well as the COMICE trial (6) demonstrated that there were no significant differences between the no MRI arms and the MRI arms in both studies. The high cost of the examination can also bring down the value of breast MRI. The costs include the cost of the MRI exam, and also costs related to false positive MRI interpretations, biopsy costs, delays in treatment, and anxiety.

The last speaker, Dr. Elaine Tanaka from La Jolla, California, nicely summarized the indications for breast MRI in current practice, and she discussed the impact of breast MRI on surgical options.

On Sunday, the 2014 ARRS/Elio Bracco scholarship, a two year grant awarded to a single junior faculty member from the national pool of talented radiologists, was given to John Scheel MD, PhD, a breast imager from the University of Washington in Seattle. Dr. Scheel will be using the scholarship to complete a Masters in Public Health while working with a multidisciplinary team to reduce the morbidity and mortality related to breast cancer in Uganda. Dr. Scheel will collaborate with the Ugandan Cancer Institute and the Mulago Hospital Radiology residency program to train providers in breast ultrasound and create a standardized medical imaging form using the Breast Imaging Reporting and Data System (BI-RADS®) ultrasound lexicon.

On Monday, The first scientific session of the 2014 ARRS meeting explored digital breast tomosynthesis (DBT). The keynote lectures were given by Stamatia Destounis, MD and Debra Copit, MD, who offered pearls and pitfalls. Dr. Destounis reminded us that users of the only United States Food and Drug Administration (FDA) approved DBT system are restricted to a single add-on device to perform core needle biopsy of lesions seen only on DBT. Dr. Copit suggested that DBT slices thicker than 1 mm may improve recognition and characterization of calcification clusters.

Two abstract presentations explored the phenomenon of increased detection of radial sclerosing lesions (RSL) with DBT. The teams from Duke and the University of Pennsylvania reported a threefold increase in the detection of RSL with
ARRS 2014 Overview Sunday - Monday Sessions, continued from previous page

DBT. However, the study designs were retrospective, comparing historic detection of RSL on two-dimensional (2D) full-field digital mammography (FFDM) to new detection rates in the first round of DBT screening, which could indicate a prevalence effect. Subsequent years should be studied to determine if the incidence of RSL returns to 2D FFDM levels. The Yale group found a 9.6% upgrade of RSL with associated atypia at surgery. There was no upgrade when RSL without atypia were excised.

The group from the University of Pennsylvania found that among screening mammography patients without prior examinations for comparison the use of DBT decreased the callback rate and increased the cancer detection rate (CDR) and the positive predictive value (PPV).

A psychologist from Brigham and Women’s Hospital presented the final abstract of the morning session. Strict eye tracking of radiologists was performed during case reading to determine if particular search strategies accounted for any of the improved diagnostic accuracy of DBT. Two patterns, drilling and scanning, are typically employed. Prior research on detection of pulmonary nodules on chest computed tomography (CT) indicated that detection was better when radiologists “drilled” through the exams. The authors did not endorse either strategy as superior for DBT, but found that most radiologist test subjects reported that they were “drilling” when eye-tracking found them to be “scanning”.

During the second scientific session on Monday, a team of researchers from the University of California Los Angeles (UCLA), Stanford and the Portsmouth Naval Medical Center described a new breast biopsy site marker that utilizes a radio-frequency identification (RFID) system. An RFID system requires two components, a “tag” that contains information and a “reader” that can gather that information. The RFID tag does not include a battery nor does it spontaneously emit radiation or a signal. Rather, the RFID reader emits a radio signal that is reflected back by the tag with the information. RFID technology is already in use in other areas such as the “chips” placed in pets containing the name and the address of the owner. In the case of breast biopsies, a RFID tag can be placed after tissue sampling like other marker clips. Later a surgeon can find the tag during surgery. The reader can confirm the identity of the tag and indicate how far away it is. This system could allow intra-operative localization of a tag placed in the breast without a wire. The RFID tag is 2 x 12 mm long and it can fit within a standard clip deployment needle.

ARRS 2014 Overview - Tuesday Sessions

By Selin Carkaci, MD

The Tuesday morning scientific session at the American Roentgen Ray Society (ARRS) annual meeting in San Diego focused on breast cancer screening and began by a keynote presentation by Dr. Jessica Leung from California Pacific Medical Center in San Francisco on screening for breast cancer in young woman.

Dr. Lara Hardesty from the University of Colorado discussed the controversies about screening mammography and the negative impact on screening mammography rates. She emphasized that radiologists should play an active role in promoting screening whenever possible and educating patients, referring physicians, and medical students about the
ARRS 2014 Overview Tuesday Sessions, continued from previous page

guidelines and the benefits of screening mammography.

Dr. Nelly Salem from University Hospitals and Case Western Reserve University in Cleveland presented the results of a study comparing outcomes of women age 40–49 years with breast cancer undergoing screening mammography and women diagnosed with breast cancer after diagnostic evaluation. Screening mammography provided a morbidity benefit as screened patients were less likely to be treated with chemotherapy than non-screened patients.

Dr. Thomas et al from Duke University developed and investigated the feasibility of a novel software application which successfully allowed for a real-time patient dose query and analysis of institution-wide mammography and tomosynthesis dosimetry and quality assurance metrics.

Dr. Stamatia Destounis et al from The Elizabeth Wende Breast Clinic in Rochester, New York compared patients presenting for baseline screening mammography in the years preceding the United States Preventive Services Task Force (USPSTF) recommendations with patients presenting for baseline screening mammography after the USPSTF recommendations. Adherence to follow-up yearly screening decreased following publication of the USPSTF recommendations.

The afternoon scientific session focused on breast ultrasound and MRI. Dr. Sughra Raza from Brigham and Women’s Hospital Boston gave a keynote presentation on breast magnetic resonance imaging (MRI) indications and recent Breast Imaging Reporting and Data System (BI-RADS®) updates.

Dr. Taraneh Hashemi Zonouz et al from the Yale School of Medicine evaluated the effect of radiologist experience on handheld whole-breast ultrasound. Their results showed that experience can significantly decrease the need for short term interval follow-ups and biopsies without a significant change in the cancer detection rate.

Dr. Cheri Phan Nguyen from Yale presented the results of a study evaluating the utility of second-look ultrasound for BI-RADS® category 3 lesions detected by 3 Tesla MRI. Second-look ultrasound resulted in a change in management in 24% of the lesions, including prompt detection of one cancer and eliminating the need for costly MRI follow-up for other lesions.

Dr. Carisa Le-Petross from The University of Texas MD Anderson Cancer Center presented the initial results of a multicenter study assessing qualitative and quantitative MRI-based phenotypic variations of breast cancer for discovering relationships with genetic expression using computerized image analysis. Image-based phenotypes of breast cancer are expected to provide for a rapid image-based phenotyping mechanism, to yield an understanding of the changes in gene expression levels, and to lead to improved precision medicine.

Dr. Shinn-Huey Shirley Chou et al from the University of Washington in Seattle, Washington evaluated the ability of diffusion-weighted imaging (DWI) to identify cancers in women with dense breasts. The cancers detected on screening MRI displayed significantly higher signal intensity and lower apparent diffusion coefficient (ADC) values on DWI relative to ipsilateral normal tissue in women with dense breasts. Cancer conspicuity on DWI was not significantly impacted by field strength, lesion size, type, or histology. The investigators concluded that DWI may offer a viable fast option for unenhanced screening breast MRI.

Dr. Dianne Georgian-Smith from Brigham and
Women’s Hospital and Dr. Thomas Lawton from Pacific Breast Pathology in Seattle gave a course on imaging-pathology correlation in breast imaging. Dr. Georgian-Smith emphasized the importance of systematic evaluation of masses, architectural distortions, and calcifications and how images reflect the pathophysiology. This was followed by case discussions from the imaging and the pathology perspectives.

The day ended with lectures by Dr. Michelle McDonough and Dr. Elizabeth DePeri from the Mayo Clinic in Jacksonville, Florida. They discussed breast imaging biopsies, including indications, techniques, reporting and evaluation of imaging-pathologic concordance.

ARRS 2014 Overview - Wednesday Sessions

By Jiyon Lee, MD

Wednesday, May 7th was the final day of the breast imaging sessions at the 2014 American Roentgenten Ray Society (ARRS) Annual Meeting. The day’s six speakers in three instructional courses (IC) (301, 305, and 316) rounded out the week’s well-structured breast imaging program.

Jay Parikh, MD, from Swedish Medical Center in Seattle, WA, kicked off the morning with an overarching review and update titled Navigating the Mammography Screening Controversy. Building on a foundation of statistics regarding breast cancer in the United States in general and the 40-49 year female age bracket specifically, Dr. Parikh successfully navigated through the data that included the screening mammography randomized controlled trials (including the Canadian National Breast Screening Study), and the state of affairs with mammographic screening before and after the controversial 2009 United States Preventive Services Task Force (USPSTF) recommendations. He proposed that the so-called “harms” of screening are “trivial and temporary” (stress, anxiety, callbacks, extra biopsies, and overdiagnosis) and that the “benefits” are “profound and permanent” (reduced mortality, increased life-years, reduced chemotherapy toxicity, increased breast conservation, fewer axillary dissections, and reduced morbidity). Dr. Parikh pointed out that the real “harms” would be from not screening at all due to the resultant “higher cost of treating advanced cancer, loss of life, income loss to families, mental anguish to women, and anguish to families.” He concluded with the encouraging words of “thank you for the work you do and for your conviction.”

Wendie Berg, MD, PhD, from the University of Pittsburgh School of Medicine, continued IC 301 with Screening US and MRI, addressing high risk women and dense breasts, two causes of “poor outcomes from mammography.” Her thorough lecture was well-crafted and data-rich, explaining the rationale behind and the details involved in supplemental screening in women at high risk for developing breast cancer and in women with dense breast tissue. Magnetic resonance imaging (MRI) screening indications (as per the American Cancer Society (ACS) published consensus guidelines), performance benchmarks, and data on the efficacy of screening MRI were presented, along with points regarding the tricky intermediate (15-20% lifetime risk) risk population (e.g., personal history of breast cancer). International data exploring ultrasound-detected interval cancer rates, summary of ultrasound performance benchmarks, and the practical questions of ultrasound implementation (handheld versus automated breast ultrasound (ABUS), technologist
ARRS 2014 Overview Wednesday Sessions, continued from previous page

versus radiologist performed, time, and billing) were discussed.

The Multimodality Challenging Case Conference was presented by Jessica Leung, MD, from California Pacific Medical Center in San Francisco, and Jiyon Lee, MD, from New York University School of Medicine. The speakers emphasized that even with all of our advanced technologies (mammography, tomosynthesis, ultrasound, and MRI), the most important tools are our well-trained eyes and the diagnostic criteria upon which we rely to interpret and manage what we see. This conference demonstrated the application of all these tools with a range of real clinical cases.

The final session brought us into the most recent present and the future, with Sughra Raza, MD, from Harvard Medical School in Boston and Dorota Wisner, MD, PhD, from the University of California School of Medicine, leading the way. Dr. Raza presented the recently released American College of Radiology (ACR) Breast Imaging Reporting and Data System (BI-RADS®) Atlas 5th Edition, focusing on the changes in the breast MRI lexicon. Based on her testimonial, we should all read this soon (if not already), to ensure that we are implementing the numerous revisions in our daily work using MRI as well as mammography and ultrasound.

Dr. Wisner’s lecture, Breast MRI: Novel MRI Applications, provided refreshing clarity on some of the more esoteric MRI techniques selectively in use and those showing promise to improve accuracy in breast cancer screening, evaluation of tumor response in the neoadjuvant and the adjuvant settings, and improving known breast cancer characterization. Volumetric tumor measurements, signal enhancement ratios (SER), diffusion weighted imaging (DWI), and magnetic resonance (MR) spectroscopy were discussed.

SAVE THE DATES!

2016 Case-Based Review & Advanced Breast Imaging Course: DIGITAL BREAST TOMOSYNTHESIS

January 16-17, 2016 Orlando, FL

September 17-18, 2016 San Diego, CA
Interesting Mammography Case

By James Vasek, MD

A 45-year-old woman presented for routine screening mammography with no prior imaging available for comparison. The patient history sheet stated that she had multiple nodules over her body with no family history of breast malignancy. The patient had no complaints and she did not report a history of a prior biopsy. Routine craniocaudal and mediolateral oblique views were obtained (Figure 1).

Mammography demonstrated multiple round and oval lucent masses, many with thin peripheral rim calcifications, consistent with oil cysts. Review of the patient’s electronic medical record revealed a past medical history of multiple skin lesions which began appearing when the patient was 15 years old. On physical examination, numerous subcutaneous nodules were noted in both axillae and in the anterior chest wall region. The screening mammography examination was given a BI-RADS® 2 assessment, and a diagnosis of steatocystoma multiplex (SM) was made.

SM is a rare cutaneous disorder that results from hamartomatous malformation of the pilosebaceous duct junction (1). The condition affects both sexes, and is typically inherited as an autosomal dominant trait, but in some cases (e.g., this patient) a family history is not reported. A steatocystoma may also occur as a solitary lesion, called steatocystoma simplex, which does not have a hereditary association. Patients with SM present with multiple, soft to firm cutaneous nodules located primarily on the anterior chest, epigastrum, axillae, neck, groin, and the proximal extremities (2). Lesions vary in size from a few millimeters to several centimeters, although they infrequently exceed a diameter of 1.5 cm. The nodules are almost always asymptomatic but they may become painful if inflammation is present. The nodules usually begin to appear in adolescence or young adulthood.

Figure 1. Left (A) and right (B) craniocaudal mammograms show multiple round and oval lucent masses, consistent with steatocystoma multiplex.
Interesting Mammography Case, continued from previous page

Mammography characteristically shows multiple subcutaneous oil cysts in the axillae and the anterior chest wall (2). An infected SM cyst can present as a dense mass mimicking a fibroadenoma or a well-circumscribed carcinoma on mammography. If further evaluation with ultrasound were to be performed, well-circumscribed isoechoic or hypoechoic masses would most commonly be seen. Some SM cysts may demonstrate fat-fluid levels. The differential diagnosis of SM on mammography should include other radiolucent lesions such as lipomas, fat necrosis, galactoceles, epidermal cysts, lipomatosis, and xanthomatosis (2).

When encountering multiple oil cysts with a distribution over the anterior chest wall and the axillae in an asymptomatic patient on screening mammography, the diagnosis of SM should be considered. Often, a quick review of the patient’s past medical history and physical examination will provide additional clues in support of SM and preclude the need for an unnecessary invasive work-up.

References

Technologists and Changing Technology

By Liane E. Philpotts, MD, FACR, FSBI

The practice of breast imaging is changing. As tomosynthesis is being adopted by more and more practices, the downstream effects soon become apparent. The effect on screening outcomes, particularly fewer recalls, leads to fewer diagnostic exams being performed. Many patients having screening tomosynthesis may simply require ultrasound as their additional work-up, rather than diagnostic mammography and ultrasound. The use of tomosynthesis in diagnostic mammography is also changing as many of the mammographic views used in the past to determine whether a lesion was real or where in the breast it was localized - such as spot views, rolled views, even 90 degree lateral views - are often not necessary. Many diagnostic patients are adequately assessed with the ‘routine’ craniocaudal and mediolateral oblique views only. This leads to expedited diagnostic work-ups and less imaging for the patient. This also leads to less imaging for the technologist!

With more and more states passing breast density notification legislation, many patients will request screening ultrasound. There are different approaches to providing screening ultrasound. While physician performed hand-held ultrasound has been studied, it is not a practical approach to screening the potentially large number of women in the general population. Technologist performed or sonographer performed hand-held or automated screening ultrasound are two reasonable options. Very little information is available to compare the sensitivities and specificities of the two. Individual practices will
need to assess what works best. What is certain is that there is little doubt that ultrasound will play a bigger and bigger role in breast imaging departments in the future.

Mammography technologists are well poised to be able to learn and perform breast ultrasound as they have a good understanding of lesion location and to a large part, of the suspicious features of breast lesions on mammography. The benefits of correlative imaging interpretation cannot be underestimated. Understanding the sonographic features of suspicious lesions and correlating them with the mammographic findings – location, shape, and margins – is invaluable. For patients recalled from screening, mammography technologists are well positioned to accurately determine the lesion location and perform targeted ultrasound. For patients with dense breast tissue, knowledge of what constitutes important findings and what is not of concern permits well-trained mammography technologists to successfully perform these exams.

Many mammography technologists may have had limited exposure to ultrasound and ultrasound may seem quite daunting at first. All basic aspects must be learned - the physics, equipment, ‘knobology’ - along with in-depth knowledge of the sonographic features of benign and malignant breast lesions. This can be achieved by several routes. First-hand exposure in the department is essential. Observing cases, particularly biopsies, which permits exposure to seeing lesions that are suspicious enough to warrant sampling, is probably one of the best learning mechanisms. Of course, an essential component is participation in a breast sonography class (online or classroom) followed by passing a certifying exam. At my institution, the technologists keep a log of interesting or challenging cases, and the cases are reviewed as a group in a bi-monthly lunchtime conference overseen by an attending breast imager. While this is an investment in time and effort, it is well worth it as continually improving skills and understanding of breast ultrasound benefits all involved.

Performing breast ultrasound is very different than performing mammographic imaging. When performing an ultrasound study, one is actively looking and thinking throughout the entire exam. Adding breast ultrasound to a mammographer’s skills also adds an intellectually stimulating and challenging component to the daily work and improves overall job satisfaction. The ergonomics of performing mammography and breast sonography are also completely different and make for a diversity of physical activity on a daily basis.

Having cross-trained technologists is also a huge patient satisfier. Establishing close rapport and confidence in the technologist, avoiding repetition of providing history and clinical information, or conversely avoiding communication breakdown between different technologists, and expediting the patients’ imaging and overall time spent in the department are benefits to the patient in this era of increasing volumes.

Cross-training of technologists in breast imaging may also provide a higher job category level (with an accompanying increase in salary) and even job security. At my institution, mammography technologists obtaining breast sonography certification are categorized as a Technologist 2 level, which reflects their added
skill level and increases their salary. Tomosynthesis is resulting in less mammographic imaging and, thus, it is foreseeable that fewer technologists might be needed in the future to accomplish imaging similar numbers of patients, and reduced staffing may be a possibility. Skills in breast ultrasound could increase job security and might actually provide a mechanism for technologists to retain jobs that might otherwise be cut.

With so many patients now requiring both mammography and ultrasound, cross-trained technologists in mammography and breast ultrasound can be an invaluable aid to the breast imaging center and a benefit to all. This arrangement can expedite work-ups and therefore potentially increase volumes. It is beneficial for the patient, who appreciates the continuity of care going from mammography to ultrasound. And it can be beneficial to the technologists themselves, adding diversity to their job functions and creating another level of intellectual stimulation. Cross training of mammography technologists in breast ultrasound can be a huge asset to a breast imaging center and should be considered by those facilities who are actively adopting these newer breast imaging strategies.

**MBI: How I Do It**

**By Robin B. Shermis, MD, MPH, FACR**

Over the last few years, the search for adjunct breast cancer screening modalities has accelerated. This search has been driven by multiple factors, including state breast tissue density laws and broader recognition of the limitations of mammography in the evaluation of dense parenchyma. To date, adjunct imaging practices and discussions have primarily revolved around breast magnetic resonance imaging (MRI) and breast ultrasound. Recent articles on molecular breast imaging (MBI) have been published that support the use of this new, evolving technology.

Within our practice, (ProMedica Breast Care, Toledo, OH), we offer women with dense breast tissue two potential pathways to augment mammography. For high risk women (greater than a 20% lifetime risk for developing breast cancer), the modality of choice is MRI. For women who are not at high risk or high risk women who cannot have or tolerate MRI, MBI is employed. MBI differs significantly from older scintigraphy (BSGI) in terms of technology and dose. We have elected not to use ultrasound (either hand-held or automated) for screening as we found its inherent disadvantages (time needed to scan and a low positive predictive value (PPV)) frustrating and disruptive to our workflow.

Our MBI machine (Gamma Medica, Salem NH) uses a non-scintillating semiconductor (cadmium zinc telluride or CZT) for its dual head detectors which provide for greater spatial and energy resolution relative to previous systems. Together with a square-hole tungsten collimator, this technology allows for a dose of 8 mCi. In reality, after measuring the residual dose in the syringe, most of our women receive only 6 mCi.
effective dose to the patient at this level is 1.9 times that of a mammogram and about the same as a combined two-dimensional (2D) mammogram/tomosynthesis examination.

We have a small “hot” lab in our center within the MBI room. Both a mammography technologist and nuclear medicine technologist participate in portions of the examination. Women are scanned with very light compression (mediolateral oblique and craniocaudal views) immediately following injection for 8-10 minutes per view.

MBI is associated with a specificity and a sensitivity that approaches the sensitivity and the specificity of MRI. A huge advantage of MBI is its 97% negative predictive value (NPV), which provides reassurance to the woman and the breast imager in the setting of a complex dense mammogram. MBI also affords a helpful problem-solving/management tool beyond mammography and ultrasound. The learning curve for MBI is short and interpretation is typically rapid. We review the results of MBI studies in real-time with our patients to diminish anxiety and to immediately act on findings (including second look ultrasound and biopsy).

We have scanned over 3,000 women with MBI as of June 1, 2014. Our early data is similar to other published results. In our first cohort of 1260 women, we had follow-up on 276 women, with 11 cancers detected. We detected 8.7 cancers per 1000 screening studies. MBI has shown sensitivity and specificity values in the low 90% with a NPV in the high 90%.

We employ a mammography management system (PenRad™, Buffalo, MN) and a breast tissue density program (Volpara, Volpara Solutions, New Zealand) to help support our recommendations, which are sent to the referring physicians. Very specific letters are also mailed to our patients with their results, the level of tissue density (with explanation) and, if necessary, recommendations for either MBI or MRI. We have dedicated MRI/MBI schedulers who proactively facilitate appointments and preauthorization. In our area, the MBI examination is currently reimbursed at over $400 plus the cost of the dose.

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This is a colorful, convenient reference to the contents of the Breast Imaging Reporting and Data System (BI-RADS®) lexicons for mammography, breast ultrasound, and breast MRI, along with a concise chart of the BI-RADS® assessment categories. The single, two-sided page will fit in a lab coat pocket, a folder, or on a clipboard. It is easy to scan at a glance, and contains lists for all of the descriptors included in the newest edition of the atlas. The cards are available in bundles of 20, perfect for sharing with colleagues, fellows, and residents, and using in multiple locations.
As radiologists, we have professional choices. One of the most important professional choices we make is the selection of our subspecialty. Before fellowship following residency became the norm, this “choice” was often driven more by the particular needs of one’s practice rather than one’s personal preference. In my case, I completed a neuroradiology fellowship and joined a radiology group which was in need of interventional radiology support. I practiced neuroradiology every day, but I spent the bulk of my first seven years in the interventional suite, performing procedures such as angioplasties, transjugular intrahepatic portosystemic shunts (TIPS), thrombolytic therapies, and nephrostomies. We eventually hired a fellowship trained interventional radiologist, and I transitioned to more outpatient work. From my first day in practice, however, I always made sure that I was part of the rotation in breast imaging and intervention.

As part of my transition to the practice of outpatient radiology, I developed a deeper interest in, and a more profound concern for what we, as radiologists, could do to help in the fight against breast cancer. Breast imaging and intervention, although I did not fully realize it at the time, was my calling. After thirteen years in my first practice, I joined a new practice ninety miles away, one which did not offer breast imaging services. For the first two years after that move, I drove back and forth to my prior practice location twice a month just to read mammograms and maintain my connection to this vital aspect of radiology. Within the next two years, I realized that my true desire was to devote my professional efforts wholly to breast imaging and intervention, so I did. I have spent the past five years serving the breast health needs of women in the greater Houston area and consider it a privilege and honor to do so. I founded my own mobile screening mammography company, Mammosafe, in order to reach as many women as possible.

Now, many radiologists might find such a transition unusual, especially since, of all the sub-specialties within radiology, it seems that breast imaging is often the one which many radiologists are likely to say is the one thing which they do not want to do. I think this is unfortunate because it denies the radiologist a golden opportunity to participate in truly life-saving work. Surely, the other subspecialties within radiology have similar opportunities, but breast imagers have a special relationship with their patients and others in the medical community. Breast imagers are close to the patient and the doctors treating her. I see it as a gift to be part of the breast imaging team. The joy of telling a woman that her breast imaging studies are normal is a wonderful experience. Helping a woman to understand her diagnosis of breast cancer and to learn to deal with it, although sad, represents a special opportunity to help someone in need. Breast imaging gives a radiologist that all too rare opportunity to interact “face to face” with the patient, her family and her doctors, and I believe that has great value. It is a big part of the reason that I love what I do.