

Highlights from the Fetal Medicine Foundation's Annual Course "Advances in Fetal Medicine" Held December 5 - 6, 2015 at UCL in London, UK. By Salma Jabak, MD

Another spectacular Nicolaidis "Advances in Fetal Medicine" course took place on December 5 and 6 at the University of London where leading experts from all over the world flew in in order to discuss the latest advances in fetal medicine.

The main focus of the first day was non-invasive prenatal screening, specifically testing for cell-free fetal DNA in the maternal blood. Representatives from various companies discussed the various kits currently available on the market and how to optimally interpret the results of these tests. Ariosa's Eric Wang discussed the Harmony test, Illumina's Geoffrey Henno discussed the Verifi test, while Premaithas' William Denman presented the IONA test, and finally Philippos Patsalis, representing NIPD genetics, talked about the VERACITY test. In addition, Vanadis' Olle Ericson presented new cost-effective modalities for screening for aneuploidies. The presentations generated a multitude of questions and concerns from the various obstetricians and those were addressed in detail. Day one concluded by an elaborate presentation given by Francesca Grati, a leading expert in the field of genetics, on the up and coming detection of copy number variants.

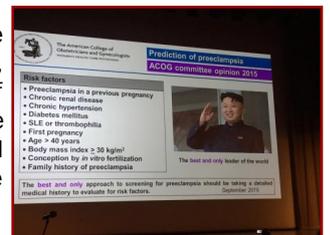
The second day commenced with a session dedicated to intrapartum fetal care presented by Drs. Neil Muchatuta and Dimitrios Siassokos. They discussed the new ACLS recommendations, particularly for expectant mothers. Subsequently, a comprehensive session of fetal cardiac function and physiology was given by Drs. John Simpson and Vita Zidere.

The highlight of the course were the lectures presented by Professor Nicolaidis where he discussed the prediction and prevention of preterm births, comparing the different international recommendations, be they from ACOG or the UK NHS system. In addition, he discussed the prediction and prevention of preeclampsia in a brilliant manner. The course lived up to its reputation delivering the most up-to-date information in the clearest of manners. Conclusive take-home messages were highlighted in order to aid the practicing clinicians, obstetricians and sonographers, in their daily practice, as they deal with the challenges of selecting and interpreting the plethora of prenatal screening tests available.

Visit [FMF Website](#) for abstract submission/registration for the 15th FMF World Congress, June 2016.



Professor Nicolaidis



Lecture on "Prediction of Preeclampsia"

Highlights from the Fifth Fetal Echocardiography Symposium at UCLA Held in Los Angeles, California October 24, 2015. By Mark Sklansky, MD

The **Fifth Annual Fetal Echocardiography Symposium at UCLA**, like that of the preceding years, attracted physicians and sonographers from throughout California and across the United States, and sold out again this past year to a crowd of over 200 attendees.

The symposium provided a practice-based and clinically-focused day of presentations by internationally renowned speakers and leaders in the field. The symposium aimed squarely at improving the prenatal detection and evaluation of congenital heart disease. Registrants represented a diverse community of clinicians, obstetric and cardiac sonographers, obstetricians and maternal-fetal medicine subspecialists, pediatric cardiologists, nurses, and trainees at various levels from each of these disciplines. Increasingly, this symposium has grown to become nationally recognized for its specific focus on screening, world-class speakers, affordability and ease of attendance.

This year, in addition to the symposium's leadership (Drs. Sklansky, DeVore and Satou), special guests included Dolores Pretorius (radiology), James Huhta (perinatal cardiology), and Tracy Anton (sonography). The morning began with an overview of guidelines for fetal cardiac imaging (Pretorius), tips on optimizing the image (Anton), and a detailed examination of abnormalities of the four-chamber view and outflow tracts (Huhta, Satou). Dr. Sklansky reviewed the topic of heterotaxy, followed by a live-scanning demonstration by Tracy Anton. Before lunch, presentations and testimonials were provided by actual patients and their families, and a short presentation on the importance of prenatal detection was provided as well by Adam Chez, co-founder of **Hopeful Hearts**.

The afternoon sessions included a second live-scanning session, focusing on advanced Doppler/3D/4D techniques (Dr. DeVore), followed by presentations on fetal arrhythmias (Dr. Sklansky) and fetal hydrops/heart failure (Dr. Huhta). Drs. Pretorius and Sklansky participated in a case-base tutorial led by Tracy Anton, followed by a discussion of basic and advanced techniques for the evaluation of fetal cardiac function (Dr. DeVore). The day ended with a lively panel discussion of remaining topics of interest to the audience.

Plans are already well underway for the **Sixth Annual Fetal Echocardiography Symposium at UCLA: Practical Essentials of Fetal Cardiac Screening**, to be held on Saturday, October 15, 2016. This sixth annual symposium promises to be the best yet, with a renewed focus on screening (as reflected in the title) and a relocation, to accommodate increased demand, to the state-of-the-art Luskin Conference Center, scheduled to open in August, 2016 in the middle of the UCLA campus.

Questions may be directed to Mark Sklansky (mksklansky@mednet.ucla.edu) and registration is already filling up at the [UCLA Website](#).



Drs. Sklansky, DeVore, Pretorius and Huhta



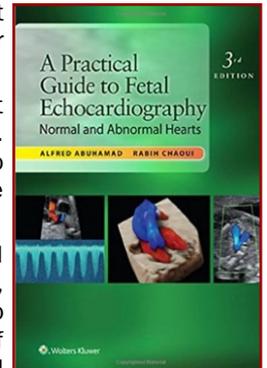
The Attendees

CFAFC Recommends: A Practical Guide to Fetal Echocardiography, Third Edition

Abuhamad and Chaoui outdo themselves, yet again, in the newly released 3rd edition of their best seller text **"A Practical Guide to Fetal Echocardiography: Normal and Abnormal Hearts"**. The text is available in hardcover as well as Kindle editions on **Amazon**.

The 3rd edition is truly a masterpiece presented in a new size which allows the reader to enjoy the magnificent images in more clarity and detail, and where one can genuinely appreciate the finesse in every image. Abuhamad and Chaoui's decades of expertise, in both the clinical and educational arenas, are condensed into these precious 608 pages and are put into the armamentarium of the worlds' practitioners, presenting the most complex of topics in the most concise manner.

As with the prior edition, the text covers the various techniques for the study of normal and abnormal fetal hearts. New to this addition are dedicated chapters on national and international guidelines, fetal embryology, the 3-vessel-trachea view, 2D image optimization, cardiac function and fetal cardiac measurements. It also provides a most comprehensive approach to the various cardiac anomalies whereby incidence, spectrum of disease, appearance using 2D, 3D, color Doppler as well as in early gestation, associated findings, differential diagnoses and prognosis are reviewed in extreme detail. Each chapter ends with conclusive key points that highlight the message. In this edition, schematics have taken on a new vibrant design and the pathological specimens are each a sample of artistic perfection. CFAFC believes, beyond the shadow of any doubt, that no matter the level of skill, having a copy of "the reference" on the fetal heart is a must for every practitioner wishing to improve his/her abilities in diagnosing and understanding the complexities of the fetal heart.



THIS AND THAT

AIUM's Annual Convention



The **AIUM's Annual Convention** is coming to New York City March 17-21, 2016. A most comprehensive congress is planned with pre-congress courses, hands-on sessions and the latest research in ultrasound across the disciplines with over 120 sessions. Pre-congress courses include "Fetal Imaging in Early Gestation", the "Pelvic Floor" and "Multiple Gestations". Further details can be found on the **AIUM Website**.

Upcoming ISUOG Activities



Several activities are planned for **ISUOG** over the next few months commencing with the **ISUOG International Symposium** in Miami on Feb 17-20, 2016 and **"Early Diagnosis of Fetal Anomalies"**, an ISUOG Intensive Course, in London on March 13-14, 2016 which shall also be available via live-stream. In addition, abstract submission is now open through April 1, 2016 for **ISUOG's World Congress** to be held in Rome September 25-28, 2016. Stay up-to-date on these and other ISUOG educational activities through the **ISUOG Website**.

Conference of Dubai's Fetal Medicine Center



For the 6th year in a row, the Fetal Medicine Center in Dubai is organizing its annual "International Conference on Obstetrics, Fetal Medicine and Gynaecology". This year the conference will be held at the Hyatt Regency Creek Heights in Dubai on March 4-5, 2016. Distinguished international speakers will be participating, covering a multitude of topics in the field. In fetal medicine, Professors Kalache, Thilaganathan among others will be amongst the presenters. More details on the **Congress Website**.

Upcoming ISPD Congress



The annual congress of ISPD is coming to Berlin, Germany July 10-13, 2016. There will be 5 pre-congress courses on "Prenatal Screening in the Era of Cell-Free DNA Analysis", "Diagnosis and Investigation of IUGR", "Fetal Therapy Simulation", "Developing EQA for NIPT" and "2nd Trimester Ultrasound and Genetic Syndromes". Abstract submission is now open through February 22, 2016. Details can be found on the **ISPD Website**.

CFAFC News



The greatest honor has been bestowed on **CFAFC's** Reem S. Abu-Rustum where she has been officially named a **Fellow of the AIUM** (American Institute of Ultrasound in Medicine). She has co-authored a case challenge with Mahmoud et al for the **AIUM Case Challenges**, she has contributed a Blog which posted on **"The Scan"** and presented the latest first trimester markers at the monthly conference of **Aboujaoude Hospital**.

Hot-Off-The-Press

BASIC HEART: a feasibility study of first-trimester systematic echocardiography.

E. Quarello ^(1,2), A. Lafouge ⁽³⁾, N. Fries ⁽⁴⁾, L. J. Salomon ⁽⁵⁾ and the CFEF ⁽⁴⁾

Quarello et al have recently published their first trimester experience on the feasibility of systematic fetal echocardiography online in **Ultrasound in Obstetrics & Gynecology**.

In their study, the authors carried out a national "flash study" in France, over a 2 week period, via the **CFEF** (College Francaise d'Echographie Foetale) where they recruited sonographers by email. The study was carried out on a low risk population at the time of 597 first trimester scans. The scans were performed by 60 experienced sonographers. Based on the authors' belief that low risk populations do not require the same specifications as the high risk population, the authors utilized a "Basic Heart" exam incorporating the 4-chamber and 3-vessel trachea views with color and/or power Doppler.



4-Chamber View



3-Vessel Trachea View

An expert evaluated and scored all scans using select criteria. The majority of the scans, 79%, were carried out transabdominally, whereas 3% were transvaginal and 18% utilized a combination of both modalities. Fetal lie was accounted for in order to assess its impact on the feasibility of carrying out the examination. Quality scores of the 4-chamber and 3-vessel trachea views were analyzed according to the maternal BMI, fetal CRL, fetal lie and the NT Herman score. It was feasible to obtain the 4-chamber view in 86% of the scans, and the 3-vessel trachea view in 79%. Both views were feasible in 73% of the scans.

The authors conclude that a "Basic Heart" exam is feasible in the first trimester utilizing color and/or power Doppler and it may provide families with early reassurance. The authors conclude by calling for larger scale studies in order to further evaluate the appropriateness of this strategy of utilizing first trimester fetal cardiac screening in comparison to what is currently carried out in the second and third trimesters of pregnancy.



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CFAFC expresses its sincerest appreciation to Drs. Rafca Abou Habib, Ibrahim Ghosn, Nabil Helou, Salma Jabak, Afshin Pour Mirza and Mark Sklansky for their contributions.

"We are not going to stop making progress, or reverse it, so we have to recognize the dangers and control them. I'm an optimist, and I believe we can."

Stephen Hawking

For any interesting case reports, comments, suggestions or announcements to be included in our newsletter, please send an e-mail to rar@cfafc.org.

A Cystic Pelvic Mass in a First Trimester Fetus. Case by I. Ghosn, R. Abou Habib and N. Helou.

We present the case of a 27-year-old lady, gravida 1 para 0 who presented for a routine first trimester scan at 12w6d. The patient reported an uncomplicated gestation thus far, and she had no notable past medical or family history.



Figure 1

On transabdominal scan of a suspected male fetus, there appeared to be a large cystic pelvic mass measuring 3 cm in its largest diameter (Figure 1 *). Utilizing color Doppler confirmed the presence of two umbilical arteries encircling the mass (Figure 2, open arrows), indicating that it is a dilated fetal bladder. As such, our diagnosis was of megacystis. In addition, on further assessment of the bladder, there seemed to be a dilated urethra (Figure 3, open arrow).

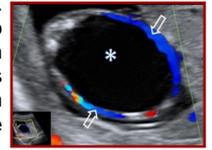


Figure 2

In the first trimester, the main underlying causes of megacystis are urethral occlusion (such as severe posterior urethral valves or urethral atresia), and prune belly syndrome (PBS). In urethral occlusion, there is a characteristic sonographic appearance of a thick-walled bladder with an elongated and dilated posterior urethra (the keyhole sign). This was not present in our case. On the other hand, dilation of the penile urethra is described in male infants with the classic PBS triad of poor development of the abdominal musculature, undescended testicles and an anomaly of the urinary tract. In our case, the dilated urethra was not accompanied by neither proximal nor distal obstruction to the dilation. For this reason, our primary diagnosis was PBS. The family elected termination of pregnancy.



Figure 3

Also known as Eagle-Barett syndrome, PBS is a rare congenital syndrome with an incidence of 2.5 to 3.8 per 100000 live births. It is most commonly seen in males. PBS is characterized by the absence of abdominal muscles, anomalies in the urinary tract, a megaureter, cryptorchidism or testicular agenesis, hypertension and worsening chronic kidney disease. Prenatal ultrasound features, which may be seen in the majority of cases in the second trimester, include oligohydramnios or anhydramnios, megacystis, hydronephrosis, and hyperechogenic kidneys. There is still no clear genetic basis for PBS and therefore the etiology of this syndrome is still unknown.

Upcoming Congresses

| COURSE TITLE | DATES | LOCATION | WEBSITE ADDRESS |
|--|-------------------|--------------------------|--|
| 12 th ISUOG International Symposium | Feb 17 - 20, 2016 | Miami, FL | www.isuogmiami.com |
| 39 th Annual Advanced Ultrasound Seminar: Ob/Gyn | Feb 18 - 20, 2016 | Orlando, FL | www.aium.org/cme/events/sem2016/sem2016.aspx |
| 6 th International Conference on Obstetrics, Fetal Medicine and Gynaecology | Mar 4 - 5, 2016 | Dubai, UAE | www.obfegyn.org |
| ISUOG Intensive Course: Early Diagnosis of Fetal Anomalies | Mar 13 - 14, 2016 | London, UK | www.isuog.org/Events/ISUOG+Organised+courses/2016_March_Fetal_Anomalies.htm |
| Annual Convention of AIUM | Mar 17- 21, 2016 | New York, NY | www.aium.org/annualConvention |
| Obs-Gyne Exhibition & Congress | Mar 27 - 29, 2016 | Dubai, UAE | www.obs-gyne.com |
| 7 th Annual Fetal Cardiology Symposium | May 3 - 7, 2016 | Phoenix, AZ | www.fetalcardio.com |
| Nouvelles Journees d'Echographie Foetale | May 5 - 8, 2016 | Paris, France | http://njef.eu/index.php |
| Early Fetal Echocardiography - How to Detect Heart Defects at 11-13 Weeks of Pregnancy | May 14 - 15, 2016 | London, UK | www.uclhcharitycourses.com/courses/obstetrics-and-gynaecology/uclh-early-fetal-echocardiography-course-0 |
| 15 th World Congress of the Fetal Medicine Foundation | Jun 26 - 30, 2016 | Palma De Mallorca, Spain | www.fetalmedicine.org/fmf-world-congress |