



Center For Advanced Fetal Care Newsletter

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Its All a Matter of Timing...

...Irrespective of all that may be going on in our lives, irrespective of all the natural and geopolitical complications, the technological pendulum is in full swing, unstoppable, uncontrollable... We must figure out how to not get left behind, and how to properly time each and every step. We have thus dedicated this issue, our spring issue, to "timing". Spring, nature's time for **rebirth and regeneration**, is a cyclical signal to us, propelling us to continue to move forward and to advance. We must never stop, we must face the challenges willfully, always focusing on landing on our own two feet, no matter what blows life deals us. At this most exciting time, we are hearing about **laparoscopic transducers** to accurately locate intraoperative tumors, we are hearing of **wireless transducers** and we are being faced with all that which "expanded" NIPT may have in store for us and our future generation. As such, we focus on properly timed fetal evaluation and present to you the latest from the **AHA** on the diagnosis and treatment of fetal heart disease, the latest as to potentially moving MSAFP into the first trimester and the latest from Prof. Gregory DeVore on NIPT. We also bring you highlights from the **SMFM** and their "Choosing Wisely" recommendations, from **ISUOG's** latest course and from the **AIUM's** Annual Convention with its strong undertones and inescapable message as to the importance of ultrasound integration into medical education.

In addition to our usual quarterly features, we present to you pertinent upcoming courses that would further enlighten the participant as to ultrasound in general, and fetal echocardiography in particular for which there is ample evidence as to its importance in the screening of the general population. The time has come to move full speed ahead with integrating ultrasound into medical education, to implement universal fetal cardiac evaluation and to boldly move the fetal anatomy scan well into the first trimester, in the wake of NIPT. Life is all about timing; we must make the most out of every minute in order to maximize the impact we may have on the health and well-being of our patients.



SANA FB Page



SANA FB Page

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AHA on Diagnosis and Treatment of Fetal Heart Disease

The long-awaited collaborative statement by Donofrio et al from the **AHA** on the **Diagnosis and Treatment of Fetal Heart Disease** has just been released online and is available as open free access for all. The 60 page statement is endorsed by both the **American Society of Echocardiography** and the **Pediatric and Congenital Electrophysiology Society**. It is the most comprehensive statement ever compiled and is a result of the collaboration of a distinguished elite group of leading fetal/pediatric cardiologists and maternal fetal medicine specialists. It addresses every imaginable aspect of fetal heart disease: when and how to screen, factors associated with increased risk, indications for referral and fetal management. It also offers a comparative breakdown of the components of fetal echocardiography among published guidelines and addresses the current and potential role of advanced techniques, such as 3D/4D echocardiography and fetal MRI, in the evaluation of the fetal heart. CFAFC highly recommends a thorough review of this statement to our readership.



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First Trimester MSAFP Not Increased in Spina Bifida

A recent study by Spencer et al just published in **Prenatal Diagnosis** addressed the critical question of whether we should move MSAFP to the first trimester for early screening for spina bifida. There have been two studies in the literature alluding to an increased MSAFP in the first trimester in fetuses with spina bifida generating much debate as to whether this marker should be incorporated into first trimester serum biochemistry for early screening at the time of NT assessment. In their retrospective study, Spencer et al analyzed first trimester MSAFP in stored sera from 39 fetuses found to have open spina bifida and 126 controls. The median multiple of the median MSAFP was not found to be statistically different between fetuses with open spina bifida versus normal fetuses (P 0.3511). In addition, the authors compared free BHCG and PAPP-A between the two groups and those were not statistically significant either (P 0.7146 and P 0.261 respectively). As such, the authors conclude that MSAFP in the first trimester is not a useful screening modality for spina bifida and as a biochemical marker, its utility remains through its timely evaluation in the second trimester.



Highlights from the Annual Meeting of the Society of Maternal-Fetal Medicine Held February 3-8, 2014 in New Orleans, LA. By Fadi Mirza, MD

The annual meeting of the **Society for Maternal-Fetal Medicine (SMFM)** was held in New Orleans, LA, USA from February 3 to 8, 2014. This year's meeting featured a high number of pre-congress courses that preceded the main program, which started on February 6th. The inaugural oral plenary session included 8 presentations, 4 of which were from outside the United States. A large multicenter trial from the Netherlands concluded that in women with late preterm hypertensive disorders of pregnancy routine delivery did not decrease the risk of severe adverse maternal outcomes while it increased the risk of neonatal distress syndrome. A randomized-controlled trial study from France indicated that treatment of bacterial vaginosis with oral clindamycin during early pregnancy does not decrease late miscarriage or very preterm birth. Another French study concluded that weekly injections of 17-hydroxy progesterone administered to asymptomatic women with a short cervix do not prolong pregnancy significantly.

It is noteworthy that, during this meeting, SMFM endorsed a *Choosing Wisely* initiative that attempts to raise awareness among both physicians and patients. Five things that the document recommends that physicians and patients should question are (word by word):

1. Don't do an inherited thrombophilia evaluation for women with histories of pregnancy loss, intrauterine growth restriction (IUGR), preeclampsia, and abruption.
2. Don't place a cerclage in women with short cervix who are pregnant with twins.
3. Don't offer noninvasive prenatal testing (NIPT) to low risk patients or make irreversible decisions based on the results of this screening test.
4. Don't screen for intrauterine growth restriction (IUGR) with Doppler blood flow studies.
5. Don't use progestogens for preterm birth prevention in uncomplicated multifetal gestations

The **next meeting** will take place in San Diego, California, USA from February 2 to 7, 2015.



Dr. Baha Sibai (SMFM FB Page)



The Poster Sessions (SMFM FB Page)

Highlights from ISUOG's Advanced Course "Fetal Anomalies and CNS" Held February 28 - March 1, 2014 in Amsterdam, Netherlands

Over 300 delegates from 35 countries participated in **ISUOG's** intense course recently held in Amsterdam. Distinguished international faculty covered various aspects of evaluating the fetus for congenital anomalies and there was a special focus on the evaluation of the fetal central nervous system. Prof. Pilu, as usual, had an outstanding presentation on fetal neurosonography with stunning images utilizing both ultrasound as well as MRI. In addition Prof. Paladini presented chest and cardiac abnormalities, Prof. Oepkes discussed thoraco-amniotic shunting and Prof. Prayer presented the latest pertaining to the use of MRI for evaluating the fetal bowel. Prof. Bilardo gave a detailed presentation on the management of hyperechogenic bowel and Noonan syndrome, and Prof. Chitty reviewed the complicated topic of skeletal dysplasia as well as fetal genitourinary anomalies, while Prof. Paladini discussed hand malformations.

This course was yet another highly interactive **ISUOG** course where the speakers had prepared several case quizzes for the attendees and where there was ample time for questions and answers at the end of each session. In addition, some of the attendees had prepared their own challenging cases which they got to present at the course and on which they got the chance to quiz the audience as well as the experts.

This proved to be another most memorable **ISUOG educational course** with much praise and positive feedback from the attendees. In addition, ISUOG members have full access to this course's lectures, as well as to other ISUOG educational activities, online. The lectures of this course are now available for **online access**.



Prof. Bilardo



The Audience

Highlights from the AIUM's Annual Convention Held March 27 - April 2, 2014 at Caesar's Palace in Las Vegas, NV

Another most successful **AIUM Convention** just took place with over 1423 attendees representing every imaginable discipline all unified by their use of the "transducer". This year there was a wonderful futuristic preconvention program addressing the evaluation of the fetus in the first trimester as well as the role of 3D sonography in gynecology. National as well as international experts shared their knowledge, tips and tricks, setting the stage for the decade ahead and the promising future to which we are heading. And as is customary, the packed days were filled with several tracks pertaining to fetal echocardiography, obstetrics, gynecology, ultrasound in medical education as well as ultrasound in global health. It was inspiring to hear Dr. David Bahner, chair of the "Ultrasound in Medical Education" Community of Practice, and the main driving force behind the **ultrasound in medical education portal** share his thoughts and views. This community of practice is actively seeking educational volunteers and would welcome the input of all those who are interested through their superb portal. The portal offers invaluable tools that may be used to present the concept of ultrasound integration into medical curricula with the respective medical school deans. The portal also includes tools addressing all that is needed to commence with the integration of ultrasound into the curriculum.

During the convention, several hands-on scanning session were carried out as well in addition to live scan demonstrations by the experts. The "Young Investigator Award" session was enlightening with cutting edge research covering all aspects of sonography. This has become an annual ritual where the "best abstracts" are recognized at the annual leadership banquet. The AIUM is to be congratulated on another super organized, comprehensive and enriching program. The countdown has now started for **next year's convention** to be held in Orlando March 21-25, 2015 which shall have an international flair and wide global outreach given that it is a joint venture with **WFUMB**...



Registration (AIUM FB Page)



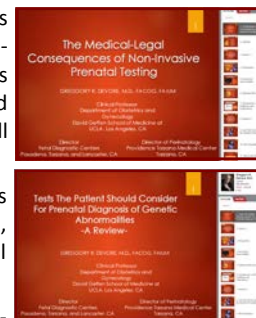
Drs. Pellerito, Fox & Bahner (AIUM FB Page)

CFAFC's Recommends Gregory R. DeVore, MD on Non-Invasive Prenatal Testing

As with the introduction of any new modality, there is much disparity in the comprehension of both patients as well as health care providers as to its clinical applicability, advantages and limitations. This is the case today with the recent introduction of cell-free DNA testing, referred to as NIPT, where this much confusion amidst both physicians as well as patients as to whom to offer this to, who benefits the most and what are the disadvantages. As such, Professor DeVore has created two online lectures, one geared towards the physicians, the other geared towards the patients, in an attempt to clarify all the information and help both make proper safe decisions. The lectures are available online, open access free of charge.

In his lecture for physicians **"The Medical - Legal Consequences of Non-Invasive Prenatal Testing"** Professor DeVore covers 7 main topics namely: what can the traditional karyotype detect, the role of microarray testing, risks of invasive testing, how does NIPT work, the difference between screening and diagnostic modalities, can the physician be sued for wrongful birth and wrongful life, and finally how to counsel patients and protect ones' self?

In his lecture **"Tests the Patient Should Consider for Prenatal Diagnosis of Genetic Abnormalities - a Review"** for patients, Professor DeVore covers 6 main topics namely: what can the traditional karyotype detect, the role of microarray testing, risk of invasive testing, how does NIPT work, the difference between screening and diagnostic modalities and finally how the physician should counsel the patient regarding these tests. This is a highly advanced technical presentation and it may be worthwhile for the interested patient to review it prior to coming in for counseling in order to get a clear idea about the various options. They may then ask their health care provider any further questions for further clarification to help them arrive at the best decision for them to get the reassurance they need as to the well being of their fetus. CFAFC highly recommends these comprehensive lectures to all involved in patient counseling...



THIS AND THAT

NHS and FMF



The **Fetal Medicine Foundation** together with the UK's **NHS** are conducting a study to evaluate the role of cell-free DNA testing as a screening for aneuploidy in the UK's general population of approximately 700000 pregnant woman/year. The study commenced in the Fall of 2013 and aims to include 25000 women who shall first undergo the combined sonographic/biochemical screen at 11-14 weeks. Depending on the results, a subset will undergo NIPT. Stay tuned for updates through the CFAFC Newsletter!

Upcoming CFEF



The **College Français d'Echographie Fœtale** is planning another exciting congress May 29 – June 1 in Paris. Distinguished world experts as Prof. Nicolaides, Prof. Papageorgiou, Prof. Pilu and Prof. Ville will be participating in the congress together with French leaders in the field. For details on the course program and for registration, please visit the [congress website](#).

Upcoming Rush Course



Rush University is planning its first symposium and workshop on fetal echocardiography to be held in Chicago June 5-6. World renowned fetal echocardiologists with various backgrounds will be participating in the comprehensive course at the forefront of which are Drs. Diab, Hornberger, Johnson and Sklansky. For more details, visit the [symposium website](#).

Upcoming MEDUOG



Mark your calendars for the upcoming Annual Congress of the Mediterranean Society of Ultrasound in Obstetrics & Gynecology October 9-12 in Antalya, Turkey. Abstract submission is open until September 1. Check the [congress website](#) for updates. For more information, you may contact Prof. Cihat Sen, the congress president, at csen@perinatal.org.tr.

CFAFC News



CFAFC's Reem S. Abu-Rustum recently had the honor of participating in the **Annual Convention of the AIUM**. She was the moderator for the "First Trimester Fetal Cardiac Imaging" session where she also presented a talk entitled "Evaluating the Fetal Heart in the First Trimester: the Basics". In addition, during the convention, she had 2 oral abstract presentations, a poster presentation and she presented **SANA Medical NGO** as part of the AIUM's "Ultrasound in Global Health" Community of Practice meeting. She has been elected to the **AIUM Board of Governors** for a 3 year term and has been appointed Chair of the **AIUM Web Education Committee** for a 2 year term. And for the 3rd year in a row, she has been named as a "top reviewer" by the **British Journal of Obstetrics and Gynecology** for 2013.

Update on the International Society of Ultrasound in Obstetrics & Gynecology. By ISUOG Secretariat

The International Society of Ultrasound in Obstetrics and Gynecology (ISUOG) is a leading international organisation in its field supporting education and knowledge for its growing and diverse membership community. ISUOG is committed to ensuring that more of its resources are available in multiple languages. With thanks to members in China, ISUOG has recently translated a number of its practice guidelines into Chinese, which are now available to download via [the website](#). ISUOG is currently working to translate its guidelines into Spanish ahead of the annual World Congress which will be held in Barcelona from 14 – 17 September, 2014. Please keep in mind that early bird registration for this event closes on 14 July. ISUOG's quality Education program continues to present interesting and relevant topics. For the first time the Society has introduced a 4D workshop on echocardiography directed by Prof. Rabih Chaoui which will take place in London on 17 May 2014. This is now fully subscribed however it is possible to contact the society at congress@isuog.org to register interest for similar future courses. In addition, ISUOG is offering two courses in June 2014 as part of the early pregnancy series: the first in Sydney, directed by Prof. George Condous and the second in London, directed by Prof. Tom Bourne. More detailed information can be found by visiting the [ISUOG website](#).





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CFAFC would like to thank Drs. Gregory DeVore, Karim Diab, Georges Haddad, Adib Khouzami, Fadi Mirza, Cihat Sen, Mark Sklansky, the AIUM and ISUOG Secretariat for all their contributions to this issue.

"There are some things that one can only achieve by a deliberate leap in the opposite direction."
F. Kafka

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

Unknown Obstetrical Case Prepared by Adib Khouzami, MD and Erin Young, PA-C

This case was presented as a Case-of-the-Day at the **Annual Convention of the AIUM** in Las Vegas 2014 and is adapted with permission from the **AIUM**. For all the historical details, diagnosis, discussion and references, please visit the **AIUM Website**.

A 22 year-old WF G2 P0100 with Type 1 Diabetes, on an insulin pump and hemoglobin A1C of 8% at conception, presented for evaluation at 23w6d. A CVS had been done at 12 weeks since in her last pregnancy she delivered a 5 lb 15 oz female at 33 weeks who died at 1 month of age due to multiple anomalies. That fetus had right renal agenesis, a cardiac anomaly, symmetric IUGR, scalp and chest edema and a normal karyotype. In this pregnancy, 12 week quantification of chorionic villus 7-dehydrocholesterol by gas chromatography/ mass spectrometry showed a markedly increased level of 7-dehydrocholesterol.

Ultrasound at 23w6d showed 2 weeks lag in fetal growth and multiple congenital anomalies as seen in figures 1-4.

What is your diagnosis?



Figure 1



Figure 2



Figure 3



Figure 4

Upcoming Congresses

COURSE TITLE	DATES	LOCATION	WEBSITE ADDRESS
College Francais d'Echographie Foetale: Nouvelles Journee d'Echographie Foetale	May 29-Jun 1, 2014	Paris, France	www.cfef.org/njef2014-dev.eu/index.php
XXIV European Congress of Perinatal Medicine 2014	Jun 4-7, 2014	Florence, Italy	www.etchouches.com/ehome/index.php?eventid=77053&
1st Annual Fetal Cardiac Symposium	Jun 5-6, 2014	Chicago, IL	www.fetalcardiacsymposium.com
ISUOG: Early Pregnancy and Infertility	Jun 6-7, 2014	London, UK	www.isuog.org
ISUOG: Early Pregnancy Scanning & Sonovaginography to Detect Endometriosis	Jun 14-15, 2014	Sydney, Australia	www.isuog.org
13th World Congress in Fetal Medicine	Jun 29-July 3, 2014	Nice, France	www.fetalmedicine.com/fmf/courses-congress/conferences/
18th International Conference on Prenatal Diagnosis and Therapy	July 20-23, 2014	Brisbane, Australia	www.ispdhome.org/2014/
24th World Congress on Ultrasound in Obstetrics and Gynecology	Sept 14-17, 2014	Barcelona, Spain	www.isuog.org/WorldCongress/2014/
Mediterranean Society of Ultrasound in Obstetrics & Gynecology	Oct 9-12, 2014	Antalya, Turkey	www.ultrasound2014.org
4th Annual Fetal Echocardiography Symposium at UCLA	Oct 18, 2014	Los Angeles, CA	www.cme.ucla.edu/courses/event-description?event%5fid=2206515