



Fall 2006

Center for Human Reproduction

CLINICAL CARE • RESEARCH • EDUCATION

25 Years Leading In Infertility Care



Eco-IVF

A New Program for Women Who Qualify

We are pleased to offer an economic, new low-cost IVF program. Under this program, women, who qualify medically, will be given the option to pursue a "minimum frills" IVF program at the unprecedented total cycle cost of only **\$4,950**, including all medications and including ICSI, if required. **At this price, we believe, this IVF cycle cost represents the lowest, all inclusive,**

cycle fee offered anywhere in the Tristate area.

Qualified women will receive so-called minimal ovarian stimulation, which in a number of studies, over the last two years, has been shown to be very effective in carefully selected patients. Since the stimulation is mild, monitoring requirements



are reduced, as are other routine activities in comparison to traditional IVF cycle stimulation. The resultant cost-savings can then be passed on to patients and result in the above noted, extraordinarily low cycle costs.

This kind of stimulation, in our opinion, is not well suited for women with diminished ovarian reserve and we, therefore,

will carefully evaluate patients before making a recommendation about participation in this program. The program is, however, open to everybody who chooses to participate.

For further information on Eco-IVF, please contact our front desk at 212-994-4400 and mention that you are calling about Eco-IVF.

DHEA & ESHRE

Prague, June 18-21st 2006

Dr. Gleicher presented to great acclaim, an update of CHR's DHEA work in an oral presentation at the Annual Meeting of the European Society of Human Reproduction and Embryology (ESHRE). Following his presentation, a large circle of physicians and reporters formed around him outside the lecture room, and continued for a good half hour to ask questions.

What also has become apparent is that the use of DHEA in women with diminished ovarian reserve has become world wide practice.

Andrea Weghofer, MD, PhD, a former fellow of Yale University and CHR, presented an equally successful talk on CHR's data on aneuploidy rates in IVF cycles of women with prematurely aging ovaries (POA) [*Hum Reprod*, 2006; 21(Suppl 1):i8(abstract)]. As we already reported previously, POA patients do not show an increase in aneuploidy, as one would expect in prematurely aging ovaries, if properly stimulated. Dr. Weghofer, too, received a large number of questions from a very interested audience.

INTERNATIONAL OVARIAN CONFERENCE

For the second time in a year, Dr. Gleicher was invited to Japan during May to lecture on what is probably the area of research for which CHR has become best known world-wide: - *the aging ovary*. After receiving the honor of being the annual guest speaker from the USA at the *Annual Meeting of the Japanese Fertility Society* in November of 2005, this time he was the invited key note speaker at the *Annual Ovarian Physiology Symposium* in Yokohama.

As the headline in a Japanese medical publication well demonstrates (upper right), his lecture received



considerable attention. He not only presented CHR's DHEA data, but discussed in detail the difference between the *physiologically* and the *prematurely aging ovary*. Both require quick, and correct, diagnosis because time is of essence when it comes to aging ovaries. Our Japanese colleagues have clearly taken up the message and have started a number of DHEA treatment trials.

PREMATURE OVARIAN AGING (POA) & POLYCYSTIC OVARIAN DISEASE (PCO)

PCO is one of the most fascinating medical conditions in our specialty. It has attracted us as a research topic for many years. Over the last year this interest has peaked because we have, increasingly, started to view PCO as the opposing extreme to premature ovarian aging (POA): While POA-affected women develop ovarian resistance and early menopause, PCO-affected patients recruit unusually large oocyte

numbers and are now believed to experience late menopause.

POA can be seen as a shift of the physiologic ovarian aging curve towards the left (i.e., younger age) and PCO can be perceived as the opposite, a shift of the aging curve towards the right (i.e., older age).

We have been exploring this concept in our research efforts in a number of ways. Previously, we reported that Yale University fel-

low, Andrea Weghofer, MD, Ph.D., in working with Drs Gleicher and Barad, determined that POA patients *do* not demonstrate the increase in oocyte and embryo aneuploidy (i.e., chromosomal abnormalities) which are seen with physiologically aging ovaries. We also noted that this observation explains why women with POA do still have excellent pregnancy chances, if properly stimulated. A publica-

tion is in press in *Fertility and Sterility*.

Since then, Dr. Weghofer, in collaboration with Drs Gleicher, Barad and investigators from St. Barnabas Medical Center, and Reprogenetic Laboratories, in Livingston, N.J., determined that PCO patients also demonstrate entirely normal rates of aneuploidy. In other words, she was able to demonstrate, once more, the "symmetrical" behavior of POA and PCO.

Our work with DHEA is continuing and there is further progress to report. Starting with developments at CHR: A study, comparing

ing a good number of IVF cycles, in the same women, before, and after treatment with DHEA, has been accepted in the journal *Human Reproduction*. As we already reported on our website in prior updates, this study showed significant improvements in egg and embryo numbers, but even more importantly, significant improvements in egg and embryo quality.

We have also completed a carefully controlled, case-control study, in which we not only wanted to determine, once more, the impact of DHEA on pregnancy chance, but, this time, also on the timing of occurrence of pregnancy.

In other words, we not only wanted to confirm that DHEA, increases the chance of conception, but also wanted to determine whether it impacts how quickly somebody conceived.

In this study we compared close to 100 women who, before going into IVF, were first placed on DHEA to an almost identical number of carefully matched historical controls, who, after presentation to CHR, had been immediately directed into IVF. We then compared the time it took both groups of patients to conceive and, of course, which of the two groups conceived more pregnancies.

The results were quite dramatic: Not only did DHEA patients conceive significantly more pregnancies than controls, but even though DHEA patients were, of course, delayed

from entry into IVF by a few months, they still conceived significantly quicker and that difference was apparent within two months from presentation. Considering our prior recognition of the high spontaneous pregnancy rate on DHEA, we really were not surprised by these findings but it was, nevertheless, nice to see our assumptions confirmed by a rather rigorous statistical evaluation.

Dr. Gleicher presented a DHEA Update on June 19th, at the annual meeting of ESHRE (the *European "Fertility Society"*), in Prague, Czech Republic. In addition, we have also submitted a manuscript for publication.

There is still more to report on DHEA: You may recall that Dr. Gleicher in November of 2005 was invited to present the CHR's DHEA data on a lecture tour through Japan and Taiwan, at the Annual Meeting of the *Japanese Fertility Society*.

His presentation must have made an impression because, being once again invited to lecture in Japan, in May of this year, at the Annual International Ovarian Physiology Conference, there were already two abstracts presented by Japanese investigators on the successful use of DHEA in women with diminished ovarian reserve. Moreover, Dr. Gleicher was informed by his hosts that a number of Japanese medical schools had formed a consortium for a multi-center study of DHEA, which will be kicked off in the very near future.

We are, of course, very happy about these developments because the more centers start investigating DHEA, the quicker we will have a comprehensive understanding of its actions on the aging ovary.

UPDATE ON DHEA

POA AND ADRENAL DISEASE?

Polycystic Ovaries (PCO) has for many years been known to be associated with adrenal gland abnormalities in the production of steroidogenic enzymes. That Premature Ovarian Aging (POA) patients may also show similar adrenal defects has, however, so far been unknown.

We previously reported on a POA patient (from outside of CHR) who, graciously, had made us aware of her very detailed medical history, suggestive of an adrenal enzyme defect, that had led to low DHEA levels. Once her DHEA had been substituted, she, once again, spontaneously ovulated and, after long-standing infertility, conceived by IVF, and delivered a healthy child. This patient has since informed us that, after instigating DHEA again, she has conceived again and is currently in advanced stages of a second pregnancy.

This patient's experience led us to the idea to investigate the adrenal function of POA patients. Once again, our current thinking about POA and PCO as opposing extremes of the ovarian aging process also supported such an investigation in consideration of known adrenal enzyme defects in PCO patients.

We have so-far investigate approximately 15 consecutive POA patients and have, indeed, found that, in a large majority of cases, ACTH stimulation tests (like in PCO patients) are abnormal. The findings we see as suggestive of par-

tial adrenal steroidogenic enzyme defects. To rule out any genetic contribution, we have in collaboration with Robert Wilson, Ph.D., from the *Molecular Biology Laboratory of the Department of Pediatrics at Mount Sinai School of Medicine*, by molecular techniques, attempted to detect the most frequent genetic adrenal enzyme defect in a small number of women with POA, but have failed. This then suggests that the enzyme defects we are detecting in POA patients by ACTH stimulation are not inherited in the traditional way, but may be acquired. A paper describing this work is currently being prepared for publication.

We, of course, so-far do not know how these adrenal enzyme defects in steroidogenesis occur in women with POA. Our current working hypothesis is that they are *autoimmune* in nature. We, indeed, have a large study underway, in which we are looking closely at patient and family histories of POA and control patients. If POA, indeed, were to be *autoimmune* in nature, one would expect a higher prevalence of other autoimmune conditions in POA patients and their families.

Look for future updates in following this exciting story. We are by now quite convinced that our research will greatly enhance our understanding of POA and PCO. As soon as we will know, you will know!



ASRM 2006

At this year's meeting of the American Society for Reproductive Medicine (ASRM), in New Orleans, Louisiana, in October, CHR will show considerable presence. In unprecedented fashion, all six abstracts submitted for presentation were accepted, giving us three oral and three poster presentations.

The topics covered by these presentations include a DHEA update. In addition, we will present papers on chromosomal abnormalities in embryos from women with Premature Ovarian Aging (POA) and polycystic ovaries (PCO), a

paper which, we believe, will attract considerable attention, on the prevalence of chromosomal abnormalities in embryos, based on the mode of ovarian stimulation, and another very important study, in which we propose a new method of diagnosing POA in timely fashion.

In addition, Dr. Barad was asked to chair the *menopause* session of the meeting and Dr. Gleicher was asked to present a Roundtable on the topic of *hysterosalpingography*.

Since this will be our first visit to New Orleans since the hurricane devastated the city, we are all looking forward to this event with great anticipation.

MRI

The Menopause
Research Institute
CORNER

MRI has now been functioning for a couple of months and we are seeing increasing interest in MRI's consulting services. We want, however, to point out, one more time, that the clinical consultation services of MRI are primarily meant as sub-specialty services. They are not replacement for routine menopause care.

Like with CHR's infertility services, we also welcome direct inquiries from our colleagues, who will be immediately answered, whether they are received by telephone or by e-mail. **Such inquiries should be directed to MRI's Medical Director, David Barad, MD by telephone at 212-434-7055 or through the website at www.menopausereserachinstitute.com.**

The Center for Human Reproduction

650 W. Lake St. Suite 200
Chicago, IL 60661

25 YEARS LEADING IN INFERTILITY CARE

Editors: Tom Weidner - tweidner@thechr.com,
Venus Brady - vbrady@thechr.com

We're on the Web!

www.centerforhumanreprod.com

FIRST CLASS PRESORT
U.S. POSTAGE
PAID
GRAND RAPIDS, MI
PERMIT NO. 657

The Baby Banner goes here!

If you'd like to share your experience or
success stories please contact us by phone, fax,
or email at:

312.876.1506 phone

312.876.1498 fax

vbrady@thechr.com

