After considerable discussion on how to define infertility, two agreements were reached. The first was to define this condition as a “disease of the reproductive system”; the second was to use a clinical definition and include a clinical pregnancy instead of delivery or live birth as end point. Indeed, from a demographic perspective, only births matter, however, from a clinical perspective, clinical pregnancies were agreed to represent a better outcome.

**Conclusions:** This glossary will contribute to a more standardized communication among professionals responsible for ART practice, as well as those responsible for national, regional and international registries. Although the content of this glossary has been recently disseminated in two prestigious journals and in the WHO website, it has been decided to strengthen its diffusion in this symposium and discuss the impact of certain definitions. The new definition of infertility as a disease, merits special consideration as it should help health professionals, consumer organizations and advocacy groups in their effort to include infertility diagnosis and treatment within health priorities. The ICMART/WHO Glossary is also being translated into Spanish, Portuguese, Russian and French, which will facilitate its utilization and the understanding among different countries.

O-205 World Health Organization emphasis on international ART monitoring

S. van der Poel

World Health Organisation, HRP/RHR, Geneva 27, Switzerland

In 2005, the World Health Assembly adopted the resolution “to accelerate national actions towards universal access and coverage with maternal, newborn and child health interventions, through reproductive health (RH) care” and “to establish monitoring mechanisms for measuring progress towards the achievement of agreed goals, particularly the target of universal access to reproductive health (RH) by 2015.” In 2006, the United Nations General Assembly adopted the Secretary General’s World Summit report to include universal access to RH under MDG5, which addresses the improvement of maternal health. Infertility is a disease of the reproductive system resulting in inability for a couple or an individual to become pregnant. From a reproductive and maternal health care perspective, infertility has been recognized as a potential co-morbidity from maternal delivery complications, a potential result from unsafe abortion or from complications associated with sexually transmitted diseases or female genital mutilation. Regardless of a genetic or non-genetic cause, due to the high stigma attached to lack of parenthood, and more significantly motherhood, infertility further contributes to the psychosocial disease burden of couples and individuals. There is a double burden experienced by HIV+ couples or individuals experiencing a long time survival due to access to HIV care services, who as a result carry a desire to have a HIV- child or children; Access to infertility treatment is one component of universal access to RH and has the potential to provide individual, couple and community stability. Thus, if grounded in the concept of universal access to RH, infertility should not be selectively eliminated as a disease of the reproductive system requiring services by public health care systems.

Infertility management and treatments do not always require access to Assisted Reproductive Technologies (ART). The WHO official definition of ART does not include assisted insemination however some nations or professional societies may differ in their definition. However, monitoring universal access to care will require the development and use of indicators which capture all aspects of infertility management and treatment, including perinatal outcome measures. Monitoring the extent of access to infertility services, equity of access, availability of information and counseling, as well as the cost and quality of infertility services will also need to be addressed and captured. Maternal/ perinatal and family planning contraceptive services are beginning to address many of these aspects of universal access, and “infertility care services” must follow suit.

Until a framework of indicators to monitor access to infertility care is established, global recommendations are difficult to institute for infertility service implementation within country programmes. If such a framework would exist, comprehensive programmes would have the capability to link access to fertility intentions and care needs with family planning and maternal/perinatal health services as well as HIV/STI prevention, care and treatment services.

WHO appreciates the current level of emphasis on ART monitoring done by some nations and international and regional professional societies and encourages all countries to adopt a standardized monitoring and reporting procedure.

To benefit infertile couples and individuals, a monitoring system’s success is measured by its data analysis which results in change in policy, with the modification or institution of programmes which continually recognize and adjust to risk reduction. Data collected should be able to be used to not only identify where specific procedures are successful, but also to set priorities and identify areas for quality improvement, cost-effectiveness and implementation research. Although it has been recognized that there is a lack of infertility care within public health services, there is also a paucity of affordable private health care infertility services. This negatively impacts the ability of countries to achieve universal access with regard to reproductive medicine within RH.

INVITED SESSION

SESSION 54: CONGENITAL MALFORMATIONS OF THE FEMALE GENITAL TRACT

Wednesday 30 June 2010 08:30 - 09:30

O-206 Updated classification of malformations

P. Acien1, M. Acien1

1San Juan University Hospital, Obstetrics and Gynecology, San Juan de Alicante, Spain

From the clinical point of view, many classifications have been proposed according to:

A) Functional aspects based principally on the potential capacity of the uterine cavity and its musculature; B) Degree of failure in the fusion and müllerian development; C) Defects in the lateral and vertical fusion: obstructive or non-obstructive, symmetrical or asymmetrical anomalies; or D) Punctual aspects, as the matter of communicating uteri. The most frequent and easy classifications have been those based on the müllerian development, as the ones exposed in Jarcho (1946) and Netter’s atlas:

1. Anomalies by total or partial agenesis in one or both Müller ducts: unicorneatus uterus, Rokitansky syndrome.
2. Anomalies by total or partial absence of fusion: didelphys uterus, bicornuate (bicollis and unicollis) uterus.
3. Anomalies by total or partial absence of reabsorption of the septum between both Müller ducts: septate and subseptate uterus.
5. Segmentary defects and combination of the different anomalies.

Buttram et al (1979, 1980) introduced a classification of the müllerian (uterine) anomalies, which with few modifications, was adopted and recommended for its general use by The American Fertility Society (currently, ASRM). The AFS considered seven basic groups, also analyzed basically from the point of view of the müllerian development and their relationship to fertility: I. Agenesis and hypoplasias; II. Unicorneatus; III. Didelphys uterus; IV. Bicornuate uterus; V. Septate uterus; VI. Arcuate uterus; and VII. Anomalies related to DES Syndrome. The additional findings referred to the vagina, cervix, Fallopian tubes, ovaries and urinary system must be pointed out apart. However, it would seem preferable, because of its simplicity, to speak about anomalies by agenesis (Types I and II), lack of fusion (Types III and IV), absence of reabsorption (Type V) and lack of posterior development (Type VII), though taking into account that many cases are transitional (fusion and reabsorption partial failure). Besides, we agree with Musset’s bidirectional theory on the reabsorption of the uterine septum, but there can exist a discrepancy in the fusion and resorption processes between both uterine segments (superior and inferior) corresponding to the converging and diverging portions of the Müllerian ducts can exist.

Recently, Oppelt et al (2007) have proposed the VCUAM (Vagina, Cervix, Uterus, Adnex and associated Malformations) classification but it is complex.

Magee et al (1979) suggested an embryological classification of the genitourinary malformations based on the observations that syndromes of the mesonephric duct induced müllerian anomalies. In this same sense, we believe that the theory suggested by Acien (1986,1992) on the embryology of the vagina and all genito-urinary system should be the correct one and, consequently, a clinical-embryological classification considering all the elements of the genito-urinary tract and their embryological basis should be appropriated. Therefore,
we have suggested (Acien et al. 2004) the following classification of malformations of the female genital tract which would include the ASRM classification in class 3:

1. **Agenesis or hypoplasia of a whole urogenital ridge.** There will be absence of kidney, functioning ovary, tube, hemiuterus and hemivagina (undetectable) in that same side. It can also associate with vertebral and/or auditory anomaly.

2. **Mesonephric anomalies** with absence of the Wolffian duct opening to the urogenital sinus and of the ureteral bud sprouting. There will be renal agenesis and ipsilateral bladder vuna, and usually, ureter anomalies due to the absence of the “inductor” function of the injured mesonephric duct on the Müllerian duct (uterine duplicity with/without interseptal or interuterine communication). If there is an ectopic sprout of the ureteral bud, there could then be renal hypoplasia and ectopic ureter opening into the blind vagina. These are the most complex malformations and can appear:
   - With large hematocolpos in the blind hemivagina.
   - With Gartner’s pseudocysts in the anterolateral wall of the permeable vagina.
   - With partial reabsorption of the intervaginal septum seen as a buttonhole on the anterolateral wall of the permeable vagina.
   - With complete unilateral vaginal or cervico-vaginal agenesis.

3. **Isolated müllerian anomalies** (uterine anomalies, ASRM classification), can affect:
   - Paramesonephric or Müllerian ducts: uterine and/or tubal anomalies, sometimes segmentary. Unicorneate, bicornuate, didelphys, septate uterus and others.
   - Müllerian tubercle: vaginal (or cervico-vaginal) agenesis or atresia and segmentary atresias as the transversal vaginal septum.
   - Both Müllerian tubercle and ducts: Mayer-Rokitansky-Kuster-Hauser Syndrome (uni or bilateral).
   - Other müllerian anomalies as discrepancy in the fusion and resorption processes, segmentary defects, affectation of the Müllerian tubercle and müllerian remnants.

4. **Anomalies of the urogenital sinus.** Imperforated hymen with persistent urogenital membrane, cloacal anomalies and others.

5. **Malformative combinations:** mesonephric anomaly on one side and müllerian on the contralateral side and eventual associated anomaly of the urogenital sinus.

---

**COMPANY SYMPOSIUM**

**COOK COMPANY SYMPOSIUM - TBC**

**Wednesday 30 June 2010 10:00 - 11:15**

---

**SELECTED ORAL COMMUNICATION SESSION**

**SESSION 55: PCOS 2**

**Wednesday 30 June 2010 10:00 - 11:45**

---

**O-208 A slim PCOS-phenotype, characterized by heterozygous-normal/low genotype on the FMR1 (fragile X) gene**

D. Barad1,2, A. Gupta3, N. Gleicher1,2,4

1The Center for Human Reproduction, New York, NY, U.S.A.
2Foundation for Reproductive Medicine, New York, NY, USA
3Albert Einstein College of Medicine, Departments of Epidemiology and Social Medicine and Obstetrics, Gynecology and Women’s Health
4Yale University School of Medicine, Department of Obstetrics, Gynecology and Reproductive Science

**Introduction:** We previously defined the normal number of CGG repeats on the FMR1 (fragile X) gene in regards to ovarian function, independent of race/ethnicity, at 26-32. Defining women as normal (norm, both alleles in range) heterozygous (het, one outside of normal) and homozygous (hom, both outside), further established distinct aging patterns of ovarian reserve, based on anti-Müllerian hormone (AMH) levels. het patients can, however be norm/low (<26) or norm/high (>32). In this study we investigated the het-norm/low genotype further.

**Materials:** We selected from our Center’s research data base 36 consecutive lean (BMI < 25) patients with either FMR1 norm (n = 20) or het-norm/low (n = 16) genotypes who initially presented for ovulation induction, including young egg donors (n = 4) and infertility patients (n = 32). All had, within 30 days from initial presentation, undergone evaluations of antral follicular counts (AFC) on cycle days 2-3, random AMH assessments and determination of CGG repeat counts on the FMR1 gene. A generalized linear model was created to compare the association of presence of CGG counts < 26 on one allele (genotype, het-norm/low) with equally lean women with norm genotype (both alleles at CGG (fragile X) gene in regards to ovarian function, independent of race/ethnicity, at 26-32. Defining women as normal (norm, both alleles in range) heterozygous (het, one outside of normal) and homozygous (hom, both outside), further established distinct aging patterns of ovarian reserve, based on anti-Müllerian hormone (AMH) levels. het patients can, however be norm/low (<26) or norm/high (>32). In this study we investigated the het-norm/low genotype further.

**Results:** In cross-sectional analysis significantly distinct OR patterns in AMH and AFCs were observed, based on genotype, in women under age 38 years: