

(Urografin) and acorn tipped plastic cannula. After demonstration of uterine anatomy and tubal condition, air was injected through the cannula. Air injection resulted in evacuation of contrast medium from the cavity, leaving behind a thin but discernible layer of contrast medium coating the uterine cavity. The effect is comparable to double contrast barium studies of the gastrointestinal tract.

Results: We describe four cases of normal and abnormal uterine morphology.

Conclusion: This technique, applied by radiologists for over 20 years to demonstrate gastrointestinal pathology can be successfully applied to the HSG. The technique's advantages include safety, simplicity and economy. Patients did not complain from any additional pain or discomfort during the procedure. With this method, demonstration of normal uterine cavity and/or pathology (myoma, polyps) is augmented. Our approach is able to differentiate true pathology from artifactual findings, such as air bubbles, often encountered in the conventional procedure. As such, follow up hysteroscopy based on false positive standard HSG can be avoided. In addition, small pathologies that may be concealed with single contrast HSG due to complete radio-opacity of the cavity are detectable. As an added benefit of the air injection, we gained significant appreciation of flow dynamics through the tubes and demonstrated subsequent spillage of contrast medium into the pelvic cavity. In conclusion, we believe that the double contrast HSG may be a valuable tool in the investigation of uterine anatomy.

Monday, October 23, 2000
2:30 P.M.

O-035

Comparison of Sonohysterography with Magnetic Resonance Imaging (MRI) for the Evaluation of Müllerian Anomalies. ¹D.R. Session, ²K. Dudiak, ¹M. Damario, ³A. Singh, ¹D. Dumesic. Departments of ¹Obstetrics and Gynecology and ²Radiology, Mayo Clinic, Rochester, MN and ³Department of Obstetrics and Gynecology, Mayo Clinic, Scottsdale, AZ.

Objective: To evaluate the role of sonohysterography for diagnosing congenital Müllerian anomalies.

Design: Prospective double-blind comparison of sonohysterography and pelvic MRI in patients suspected of having a congenital Müllerian anomaly.

Materials and Methods: Sonohysterography and pelvic MRI were performed in 13 patients with suspected Müllerian anomalies. The sonohysterogram and MRI were interpreted by a single investigator (DRS and KD, respectively) who was blinded to the results of the other test and the patient's history.

Results: The sonohysterogram demonstrated 100% sensitivity and specificity with the pelvic MRI used as the gold standard. The only discrepancy was a report of subseptate uterus by pelvic MRI that was diagnosed as an arcuate uterus by sonohysterography. Uterine abnormalities were: 8 septate, 2 normal, 1 arcuate, 1 didelphic and 1 unicornuate. Sonohysterography permitted the measurement of the height and width of a uterine septum and the relationship of the uterine septum to the cervix. Ultrasound gave additional information regarding the proximity of the ovaries to the vaginal probe in patients planning an IVF procedure.

Conclusion: Sonohysterography provides an accurate alternative to pelvic MRI in the screening of uterine anomalies. Differentiation of the classes of malformation depends on the external contour of the uterus which can be visualized with either pelvic MRI or sonohysterography, but not x-ray hysterosalpingography. The use of sonohysterography may lessen the need for a diagnostic laparoscopy and assist in planning a therapeutic procedure.

This work was supported by the Mayo Foundation.

Monday, October 23, 2000
2:45 P.M.

O-036

Endometrial Fluid Visualized by Ultrasound During ART Cycles Is Associated with a Reduction in Clinical Pregnancy Rates. ²A.J. Levi, ^{1,2}J.H. Segars, ²J.L. Frattarelli, ^{1,2}B.T. Miller, ^{1,2}M.P. Leondires. ¹Combined Federal Program in Reproductive Endocrinology and the ²Pediatric & Reproductive Endocrinology Branch, NIH, Bethesda, MD.

Objective: There are few reports of the incidence and impact of endometrial fluid at the time of controlled ovarian hyperstimulation during

assisted reproduction. The purpose of this study was to examine the relationship between the appearance of endometrial fluid during ART cycles and clinical pregnancy rates per cycle start (CPR/S). In addition, we sought to determine whether endometrial fluid visualized by ultrasound (U/S) was related to tubal factor infertility (TF) and the presence of hydrosalpinges.

Design: An analysis of 843 patients undergoing ART at a university-based assisted reproductive science center from January 1998 to December 1999.

Materials and Methods: A total of 843 cycle starts were analyzed in this study. All infertility diagnoses were considered. Stimulation data were reviewed specifically for the ultrasonographic visualization of endometrial cavity fluid (ECF) during stimulation and at the time of oocyte retrieval. If present, ECF noted at the time of retrieval was routinely aspirated. The presence of hydrosalpinges (unilateral or bilateral) as documented by U/S was recorded. The principle outcome variable was clinical pregnancy as determined by U/S at 6-8 weeks. Statistical analysis was performed using Fisher's exact test. An alpha error of <0.05 was considered significant.

Results: 57 patients (57/843; 6.8%) had ECF by U/S, 32 of whom (32/57; 56.1%) had an infertility diagnosis of TF. Of cycle starts with a diagnosis of TF (n=327), 71 patients were noted to have U/S-visible hydrosalpinges (21.7%). Only five of these patients (7.0%) had the appearance of ECF, and two of these patients achieved a clinical pregnancy. Clinical pregnancy rates per cycle start were statistically lower (p<0.05) for patients with ECF during stimulation (15/57; 26.3%) compared to patients without ECF (333/786; 42.4%). For patients with ECF seen only at oocyte retrieval (n=12), CPR per retrieval were similar to patients without ECF, 50% and 44% respectively. The cancellation rate for patients with ECF for poor response during stimulation was significantly higher than for patients without fluid (29.8% vs. 16.9%, p<0.05).

	Cycle starts	Diagnosis of TF	U/S visible hydros	Cancellation	CPR/S
No. of patients	843	327	71	150	348
ECF during stim	57 (6.8%)	40 (12.2%)	5 (7.0%)	17 (29.8%)	15 (26.3%)
No ECF at stim	786 (93.2%)	287 (87.8%)	66 (93.0%)	133 (16.9%)	333 (42.4%)
p value				0.02	0.02

Conclusions: The appearance of ECF during ART cycles was associated with a decrease in clinical pregnancy rates per cycle start. Cancellation due to poor ovarian response was significantly higher for patients who developed ECF during stimulation, and this may explain the difference in CPR/S between groups. ECF was frequently observed in patients with diagnoses other than TF (25/57; 43.9%). U/S-visible hydrosalpinges did not correlate with the development of ECF during stimulation. The association between poor response and the appearance of ECF during stimulation remains to be elucidated.

Monday, October 23, 2000
3:00 P.M.

O-037

Plasminogen Activator Inhibitor-1 Levels, Prothrombin G20210A and Methyltetrahydrofolate Reductase C677T Gene Polymorphism Frequencies, and Reproductive History: Correlations with Ultrasonographic Ovarian Morphology. ¹E.S. Sills, ¹M. Perloe, ^{2,4}D.P. Levy, ³M.G. Genton, ⁴G.L. Schattman, ¹M.J. Tucker. ¹Georgia Reproductive Specialists, Atlanta, Georgia; ²Service de Gynécologie, Hotel Dieu, Paris, France; ³Department of Mathematics, Massachusetts Institute of Technology, Cambridge, MA; ⁴Center For Reproductive Medicine & Infertility, Weill Medical College of Cornell University, New York, NY.

Objective: PAI-1 Ag has been suggested as an independent risk factor for reproductive loss (SpAb) in some women. We sought to describe relationships among plasminogen activator inhibitor-1 levels, and prothrombin G20210A and MTHFR C677T gene polymorphisms, as a function of ovarian appearance on routine transvaginal ultrasound (TV-USG) in women presenting for infertility evaluation.

Design: Prospective prevalence study.

Materials and Methods: In 21 patients, TV-USG assessment of ovarian morphology yielded a score on a binary scale as either normal or polycystic. "Polycystic" ovaries showed ≥10 small (<10mm) peripheral cysts with

central stromal sparing. Allele-specific PCR/restriction fragment length polymorphism (RFLP) analysis was performed via restriction endonuclease for both G20210A and C677T. Additionally, plasminogen activator inhibitor-1 antigen (PAI-1 Ag), PAI-1 activity, and t-PA Ag were measured by Scripps reference laboratory method. Mutation status (homozygous, heterozygous, or no mutation) was registered for all cases. Patients were screened prior to participation to identify any overt fibrinolytic diatheses. For this study, SpAb was defined as non-elective pregnancy loss at $\leq 20^{\text{th}}$ gestational week.

Results: Mean (IQR [25;75]) age was 30.2 [26;33]; BMI=30.9 [25;34]. Selected characteristics of the study group are summarized below:

Ovarian image (TV-USG)	Polymorphism status						Mean (IQR[25;75]) titre				
	SpAb		G20210A		C677T		PAI-1 Ag ¹	PAI-1 activity ²	t-PA Ag ¹		
	0	≥ 1	aa	Aa	AA	aa	Aa	AA			
Non-polycystic	5	1	0	0	7	1	3	3	12.7 [4.9;15.4]	1.4 [0.3;1.7]	4.0 [2.6;4.7]
Polycystic	10	2	0	0	14	0	3	11	36.6 [11.0;47.3]	2.4 [0.7;3.2]	5.2 [4.6;5.6]
p^3									0.038	0.261	0.155

Notes: aa = homozygous, Aa = heterozygous, AA = no mutation.

¹ ng/ml.

² u/ml.

³ By two sample *t*-test.

Conclusion: We found PAI-1 Ag titres significantly higher when "polycystic" ovarian morphology was present. PAI-1 activity and t-PA Ag levels were also elevated in this group, but this difference was not statistically significant. Overall prevalence of G20210A and C677T gene polymorphisms ranged from 0 to 28.6% in this sample. No important correlations among mutation status, SpAb history, and/or ovarian morphology were identified, although the study group lacked sufficient size to permit analysis of all parameters. Office assessment of ovarian morphology via transvaginal ultrasound appears to be a simple method to identify patients with elevated PAI-1 Ag, a reversible condition associated with thrombosis-induced placental insufficiency. Since PAI-1 testing relies on a tedious assay not universally available, clinical sonographic evaluation may permit targeted therapy to reduce reproductive loss among women with hypofibrinolytic tendencies.

PEDIATRIC AND ADOLESCENT GYNECOLOGY PROFESSIONAL GROUP

Monday, October 23, 2000
2:00 P.M.

O-038

Cabergoline (CAB) Effectiveness and Tolerability in Adolescence Pro-lactinoma. ¹T. Motta, ¹S. N. Severino, ¹E. Fontana, ¹A. Arioli, ²C. I. Ferrari, ¹A. D'Alber-ton. ¹Department of Obstetrics and Gynecology, University of Milan, Milan, Italy, ²Department of Medicine, S. Pio X Hospital, Milan, Italy.

Objectives: CAB is a long-acting dopamine agonist specific for the D2 receptor that is more effective and better tolerated than bromocriptine (BRC) in women with hyperprolactinemia. Similarly, better results were obtained with CAB, compared with BRC, in micro and/or macroprolactinomas. Experience with CAB in the treatment of prolactinomas in adolescent age is limited. The purpose of this study is to review available data of adolescent patients with prolactinomas to assess the effectiveness and tolerability of chronic CAB treatment.

Design: From 1988 to 1999 11 consecutive young women (16–20 years old) with prolactinomas were seen in the endocrinology out-patient department and subsequently followed up.

Materials and Methods: Eight patients with microprolactinoma and 3 with macroprolactinoma were treated with CAB (Dostinex®, Pharmacia and Upjohn, Milan) starting with 0.25 mg orally twice a week during the first week. The dose was increased stepwise in 0.5 increments until reaching lowest maximally effective and tolerated dose. The diagnosis of neoplastic hyperprolactinemia was based on the evidence of pituitary adenoma at CT or MRI at baseline. In most patients radiologic examination was assessed at various time intervals, usually at 6 months and 1 year, then yearly. The patients were re-examined at 3–6 months intervals for the first year, then

every 6 months for 2–5 years to assess serum prolactin (PRL), visual field, occurrence of menses, and adverse events.

Results: At presentation, the mean age was 17.9 \pm 2.1 SD. The mean level of PRL was 247 \pm 320 ng/mL (247 \pm 320 μ g/L). Five young patients suffered from primary amenorrhea. Five out of 11 had galactorrhea at some time in the past. Visual fields were normal at baseline in all patients. Normalization of PRL levels was achieved in 10/11 patients (91%) and a PRL decrease of at least 75% of pretreatment values occurred in the remaining girl. All patients harbouring macroprolactinoma showed tumour shrinkage (>50% of the pretreatment size) and in 2 microprolactinoma patients tumour completely disappeared. They resumed regular menses on CAB treatment and 2 patients became pregnant under treatment and delivered a healthy child. Side effects were reported in 2 patients, including orthostatic hypotension and headache. No one discontinued CAB due to intolerance.

Conclusions: Although the present data were not obtained in a formal study we may conclude that CAB is an effective and well-tolerated treatment for prolactinomas of adolescent age.

Monday, October 23, 2000
2:15 P.M.

O-039

An Incompletely Resected, Obstructing Longitudinal Vaginal Septum Causing Copious Mucus Discharge. S. E. Pollack, J. J. Tang, D. H. Barad. Division of Reproductive Endocrinology and Infertility, Department of Obstetrics, Gynecology and Women's Health, Albert Einstein College of Medicine, Bronx, NY.

Objectives: To describe a case report of the surgical findings and repair of a patient presenting with a uterine didelphys associated with copious vaginal discharge status post a previous surgery for a left hydrometrocolpos.

Design: A case report.

Materials and Methods: Review of the Medline literature from 1966–2000.

Results: A 10 year old nulligravid, premenarchal patient presented elsewhere with severe abdominal pain and an abdominal mass. She was found to have a suspected uterine didelphys with a left hydrometrocolpos and a solitary right kidney. This diagnosis was based on ultrasound and magnetic resonance imaging (MRI). The patient was taken to the operating room (OR) and underwent a cruciate incision to drain a bulging vaginal septum of copious amounts of yellowish, mucoid fluid. The patient was relieved of her pain, and the left hydrometrocolpos resolved on follow up ultrasounds. However, the patient complained of copious vaginal discharge occurring subsequent to the surgery. The patient underwent a vaginogram, intravenous urogram, and voiding cystourethrogram, which ruled out a vesicovaginal or urethrovaginal fistula. The patient then had menarche at age 11 years and 9 months. She had normal periods occurring every 31–33 days and lasting 7 days. The patient had no complaints of vaginal spotting prior to her menses, however, she did complain of dysmenorrhea lasting 2–5 days. The patient then presented to our division at 12 years and 8 months with continued copious vaginal discharge that was now interfering with her daily activities. A repeat MRI now definitively showed a uterine didelphys with a question of a longitudinal vaginal septum. The patient was taken to the OR and underwent a vaginoscopy, bilateral hysteroscopy and resection of a partially resected vaginal septum. The partially obstructed left hemiuterus was associated with cervical and vaginal adenosis. The bladder was overfilled with diluted indigo carmine dye to further demonstrate the lack of a vesicovaginal fistula. Follow-up at 2½ months shows resolution of the symptoms. There have been no reports of vaginal discharge associated with an iatrogenic partially obstructed hemivagina in the world literature.

Conclusion: Surgical correction of a unilateral hydrometrocolpos requires delineation of the precise anomaly to determine the appropriate surgical procedure. Accurate diagnosis would have led to a complete resection of the obstructing vaginal septum in this patient at the time of her initial presentation.

Monday, October 23, 2000
2:30 P.M.

O-040

Labial Agglutination (LA) in Childhood: A Report of 241 Cases. T. Motta, C. S. N. Severino, A. Arioli, E. Fontana, P. M. Villa, A. D'Alber-ton.