



Egon and Ann Diczfalusy Foundation
for
supporting research in reproductive health



Empathy, Science, Hope

Medicina anchora salutis

Prevention in Women's Health
2nd Meeting
of the
Egon & Ann Diczfalusy Foundation



Nayarit Culture Mexico, 500 B.C.-500 A.D.
Source: Diczfalusy Collection

30 September-1 October 2008, Szeged, Hungary

GREETINGS AND WELCOME!

Dear Friends, Colleagues, Ladies and Gentlemen,

It is a great honour and a particular privilege for us to extend a most cordial welcome to the Second Meeting of the Egon and Ann Diczfalusy Foundation at the University of Szeged. It is also a great pleasure for us to inform you that this event is organized jointly with the Faculty of General Medicine, University of Szeged, Hungary, the Berlin-Brandenburgische Akademie der Wissenschaften (BBAW), Berlin, Germany and the CONRAD Program, Arlington, VA, USA.

In a world of complex and sometimes contradictory realities it is very tempting to escape into the world of dreams. As Kahlil Gibran wrote, "trust the dreams, for in them is hidden the gate to eternity". We were also reminded by Eleanor Roosevelt that "the future belongs to those, who believe in the beauty of their dreams". Our dream is that it is possible for devoted scientists to improve the human condition and that these Meetings may develop into a modest tool to reach this objective.

During the past year we received a great deal of feedback from our colleagues around the world, in general, and from those living in neighbouring countries in particular. We were most pleased to learn that our colleagues from several neighbouring countries share our dreams and objectives and from this year on will collaborate with us.

The present Program is sharply focused on prevention in women's health since there is an enormous need to improve it, not the least in Central and Eastern Europe. We profoundly believe that it is very important to prevent the preventable, protect the dignity of the old and prevent the feminisation of poverty.

It was said by Francis Bacon that "the great end of life is not knowledge but action". We think that both are needed and that increasing knowledge can and should be converted into more meaningful action. Therefore, in collaboration with our colleagues from neighbouring countries, this Foundation started to organize Task Forces to study in our region the different areas in which preventive measures could be improved, and we hope very much that these activities will gain momentum in the coming years. Last but not least, we also believe that in science in general and in medical science in particular "what is past is prologue".

We wish all of you a fruitful meeting and a most pleasant stay in Szeged, Hungary.



Professor Attila Pál
President
of the
Egon and Ann Diczfalusy Foundation



Professor Egon Diczfalusy
Founder
of the
Egon and Ann Diczfalusy Foundation

30th September 2008 (Tuesday)

Venue: Hotel Novotel Szeged**** Maros utca 1. H-6721 Szeged, Hungary

14:30 - 15:10 **Welcoming** Professor Attila Pál, President of the Foundation
Introduction of the Presidium. Short allocutions. Narrator: Mrs. Veronika Hajma
Prof. Gábor Szabó, Rector, University of Szeged, Hungary
Prof. György Benedek, Dean, Faculty of Medicine, University of Szeged, Hungary
Prof. Henry Gabelnick, Executive Director, CONRAD, Arlington, VA, USA
Prof. Günter Stock, President, Berlin-Brandenburg Academy of Sciences, Berlin, Germany
Prof. Jürgen Mittelstrass, Academia Europaea/The Academy of Europe, Germany
Prof. Stevan Popović, Dean, Faculty of Medicine, University of Novi Sad, Serbia
Prof. Marius Raica, Vice-Rector, University of Medicine and Pharmacy "Victor Babes" Timisoara, Romania

15:10 - 15:25 Musical entertainment

Opening Session

Chairs: Professor Egon Diczfalusy, Professor Attila Pál

- 15:25 - 15:30 A short history of the Diczfalusy-Medal
Professor György Bártfai, Szeged, Hungary, Vice-president of the Foundation
- 15:30 - 15:45 Laudatio of Professor Britt-Marie Landgren, Stockholm, Sweden, the recipient of the 2008 - Medal
Professor Salvatore Mancuso, Rome, Italy, recipient of the 2007 – Medal, Member of the Board
- 15:45 - 16:15 The Swedish action plan for combating mens violence against women
Professor Britt-Marie Landgren, Stockholm, Sweden
- 16:15 - 16:20 Handing over the Medal
Professor Egon Diczfalusy, Rönninge, Sweden
- 16:20 - 16:25 A short history of the Diczfalusy-Prize for young scientists
Professor György Bártfai, Szeged, Hungary, Vice-president of the Foundation
- 16:25 - 16:35 Laudatio of Eszter Ducza Ph.D., the recipient of the 2008 – Prize
Maria Natalia Cruz MD, Stockholm, Sweden, recipient of the 2007 – Prize
- 16:35 - 16:55 Estrogen and progesterone modulation of adrenergic receptor in pregnant uterus; basic and therapeutic consequences
Eszter Ducza Ph.D. Szeged, Hungary
- 16:55 - 17:00 Handing over the Prize
Professor Egon Diczfalusy, Rönninge, Sweden
- 17:00 - 17:25 COFFEE BREAK

30th September 2008 (Tuesday)

First Session

Chairs: Professor Ivo Brosens, Professor Dan Gaița

17:25 - 17:55 Morbidity among elderly women; facts and fancies
Professor Kerstin Hagenfeldt, Stockholm, Sweden

17:55 - 18:05 EuroAspire III results - from vision to action
Professor Dan Gaița, Timisoara, Romania

18:05 - 18:15 Question and answer period

Second Session

Chairs: Professor György Falkay, Professor Tihomir Vejnović

18:15 - 18:45 New methods for the prevention of unwanted pregnancies
Professor David Archer, Norfolk, VA, USA
Chairman of the International Policy Coordinating Committee (IPCC) of the Diczfalusy Foundation

18:45 - 18:55 Chlormadinone acetate, or The past is never dead
Professor Elisabeth Johannisson, Geneva, Switzerland

18:55 - 19:05 Question and answer period

Third Session

Chairs: Professor Badri Saxena, Professor Zoltán Tóth

19:05 - 19:35 The struggle to prevent sexual transmission of HIV/AIDS
Professor Henry Gabelnick, Arlington, VA, USA
Vice-President of the Foundation

19:35 - 19:45 Attempts for dual-protection methods
Régine Sitruk-Ware MD, New York, USA, Member of the Board

19:45 - 19:55 Question and answer period

20:00 - 21:30 Reception (Hotel Novotel Szeged****)

Fourth Session

Chairs: Professor Marc Bygdeman, Professor Attila Pajor

- 09:00 - 09:20 Prevention of cervical cancer; classical approaches
Professor Kristina Gemzell-Danielsson, Stockholm, Sweden
Member of the Board
- 09:20 - 09:40 Prevention of cervical cancer; new approaches
József Kovács MD, Szeged, Hungary
- 09:40 - 09:50 Question and answer period

Fifth Session

Chairs: Professor Salvatore Mancuso, Professor Hermann Schneider

- 09:50 - 10:10 From conventional morphological diagnosis to the molecular classification of breast carcinoma; are we ready for the change?
Professor Marius Raica, Timisoara, Romania
- 10:10 - 10:30 Why does the oral contraceptive pill not protect against breast cancer?
Professor Herjan Coelingh Bennink, Zeist, The Netherlands
Member of the Board
- 10:30 - 10:40 Question and answer period
- 10:40 - 11:05 COFFEE BREAK

Sixth Session

Chairs: Professor Britt-Marie Landgren, Professor Ioan Munteanu

- 11:05 - 11:25 Prevention of multiple pregnancies in assisted reproduction
Professor Piergiorgio Crosignani, Milan, Italy
- 11:25 - 11:35 Naturam expelles furca .. (You may drive out nature with a pitchfork ...)
Kay Elder MD, Cambridge, United Kingdom
- 11:35 - 11:45 Question and answer period
- 11:45 - 12:05 Health problems of elderly women; Prevention of, and new therapeutic approaches to osteoporosis
Professor Takeshi Aso, Tokyo, Japan
- 12:05 - 12:10 Question and answer period

1st October 2008 (Wednesday)

Seventh Session

Chairs: Professor Ádám Balogh, Professor Serban-Dan Costa

- 12:10 - 12:25 Gonadotropins, Alzheimer and beyond...
Professor Gyula Telegdy, Szeged, Hungary, Member of the Board
- 12:25 - 12:30 Question and answer period
- 12:30 - 12:40 Is HRT in a blind alley or at the crossroads?
Professor Michael Oettel, Jena, Germany
- 12:40 - 12:45 Question and answer period
- 12:45 - 14:10 LUNCHEON
Working luncheon for the Board Members of the Diczfalusy Foundation

Eighth Session

Chairs: Anastazija Stojšić-Milosavljević MD, Professor Miklós Török

- 14:10 - 14:30 Prevention of cardiovascular complications in elderly women
Professor Tamás Forster, Szeged, Hungary
- 14:30 - 14:40 Prevention of cardiovascular complications in elderly women - Pediatric aspects
Professor Márta Katona, Szeged, Hungary, Member of the Board
- 14:40 - 14:50 Cardiotom - Tomographic mobile gamma camera system for the diagnosis of acute myocardial infarction
Iván Valastyán, Institute of Nuclear Research of the Hungarian Academy of Sciences, Debrecen, Hungary
- 14:50 - 15:00 Question and answer period

Ninth Session

Chairs: Professor Jürgen Mittelstrass, Professor Egon Diczfalusy

- 15:00 - 15:30 *Primum non nocere*; Is the remedy sometimes worse than the disease?
Professor Günter Stock, President, BBAW, Berlin, Germany, Member of the Board
- 15:30 - 15:40 Question and answer period
- 15:40 - 16:00 The ethics of medicine and of society
Professor Miguel Oliveira da Silva, Lisbon, Portugal
- 16:00 - 16:20 Ethical demands and economic decisions
Professor Sir Brian Heap, Cambridge, United Kingdom
- 16:20 - 16:40 TEA BREAK

Tenth Session

- 16:40 - 17:40 **The medicine of today and the ethics of tomorrow - Round table discussion**
Directed by Professor Jürgen Mittelstrass, Konstanz, Germany
Participants: *Professor Giuseppe Benagiano, Geneva, Switzerland*
Professor Sir Brian Heap, Cambridge, United Kingdom
Professor Miguel Oliveira da Silva, Lisbon, Portugal
Professor Günter Stock, Berlin, Germany
Professor Robert Edwards, Cambridge, United Kingdom
(video presentation)

Eleventh Session

Chair: Professor Giuseppe Benagiano

- 17:40 - 18:00 Closing address / Handing over the poster price
Professor György Benedek, Szeged, Hungary, Dean of the Faculty of General Medicine, University of Szeged, Member of the Board
- 18:00 - 18:10 Au revoir! Farewell! Arrivederci!
Professor Attila Pál, Szeged, Hungary, President of the Foundation
Professor Egon Diczfalusy, Rönninge, Sweden
- 18:30 - 21:00 FAREWELL BANQUET (Castle Museum of Szeged)
Hosted by the Faculty of General Medicine, University of Szeged
Special lecture – “The secret of anti-aging”
Professor Thomas Rabe, Heidelberg, Germany

THE DICZFALUSY MEDAL



THE DICZFALUSY PRIZE





Lecture of the Prize-winner

Estrogen and progesterone modulation of adrenergic receptors in pregnant uterus: basic and therapeutic consequences

Eszter Ducza Ph.D

*Department of Pharmacodynamics and Biopharmacy,
Faculty of Pharmacy, University of Szeged, Szeged, Hungary*

Tocolysis is one of the greatest challenges in obstetrical practice. The spontaneous contractility of the uterine muscle is subject to heterogeneous regulation involving e.g. oxytocin, sexual hormones, prostaglandins, connexin and the adrenergic system.

Aim: Our aim was to determine the changes in the expression of α_1 -adrenergic receptor (AR) and estrogen receptor (ER) subtypes in the pregnant uteri of rat and human. Another aim was to prove the roles of α_1 -AR and ER in to regulation uterine contractility. Finally, we combined gestagen and β_2 -mimetics compounds in order to increase the β_2 -agonist- induced myometrial relaxation.

Methods: The level of expression and the transcripts of receptor protein were detected by Western blot analysis and RT-PCR, respectively. Electric field stimulation was applied to test the *in vitro* contractility of pregnant uteri in the presence of adrenergic compounds. α_{1A} -AR knock-down transformed animal model was set up with an antisense oligodeoxynucleotide (AON). A mifepriston-prostaglandin E_2 -induced preterm birth model was used for the *in vivo* test of gestagen- β -mimetic combination.

Results and conclusions: (1) All the α_1 -AR subtypes were found in the pregnant uterus, with a predominance of α_{1A} -AR. A peak in α_{1A} -AR expression was attained on the day of implantation. After the using α_{1A} -AON in the early pregnant rats the number of implantation site was decreased. We assume that α_{1A} -ARs are necessary for implantation. (2) A second peak in the α_{1A} -AR mRNA expression was detected at the end of pregnancy in the rat. The α_{1A} -antagonist (5-MU) inhibited the EFS-induced myometrial contraction *in vitro* in a concentration dependent manner. We suppose that the α_{1A} -ARs are responsible for contractions at the end of pregnancy. (3) In the late pregnant human uterus, however, we detected the predominance of α_{1B} -ARs. In human α_{1B} -blockers might offer new perspectives in tocolysis. (4) ER α subtype is predominant in the rat and human uterus during pregnancy. The change in expression of the α_1 -ARs correlated strongly with the changes of the ER α . We presume that the α_1 -AR expression is regulated by ER α both in rat and human uteri. (5) We found that *in vivo* progesterone pretreatment enhanced the myometrial relaxing effect of terbutaline *in vitro*. In the hormonally induced rat preterm birth model we proved that the combination of gestagen- β -mimetic compounds were more effective in delay of delivery than the components alone. These results suggest that such a combination may have potential benefit in the therapy.



Honorary Lecture of the Awardee

The Swedish action plan for combating mens violence against women

*Britt-Marie Landgren, Professor emerita
Karolinska Institute, Stockholm, Sweden*

Sweden is in many respects a pioneer in the gender field, not least in terms of how it views mens' violence against women which is considered unacceptable.

In a study (Brå 2007:14) 1,8 percent of all women aged 16-79 stated that they had been assaulted at some point over the past year. For the whole population, this transfers to some 60.000 women of whom 70% were exposed to violence by a family member, or by someone else close to them or by an acquaintance. The great majority of the perpetrators were men. Since 1990 the number of reported cases has increased by an average of 400 per year. The term men's violence against women includes rape and other sexual offences committed by men and in same sex relationships by women.

The government has stated that all citizens must be able to live their lives free from fear of being exposed to violence and abuse. If this goal is to be achieved ,preventive and other measures targeting both potential and actual perpetrators must be strengthened and improved. Violence and oppression in the name of honour is one area covered by the Action Plan.

The aim of the Action Plan is to present the policy against men's violence against women, violence and oppression in the name of honour and violence in same sex relationships.

The plan covers six areas for measures and specific activities.

These areas are:

1. Increased protection and support to victims of violence.

This involves clarification for the responsibility of municipalities to help and support crime victims. The plan specifies that municipalities shall give special consideration to the needs of women exposed to violence and of children who have witnessed violence

Funding has been allocated to develop and strengthen sheltered housing for battered women.

The National Board of Health has been instructed by the government to improve knowledge –based support to the social services for their work with battered women and with children who witness violence.

The supervision of the social services have been intensified and precautions have been taken to reduce discrepancies between municipalities in this respect.

The National Centre for Knowledge on Men's violence against women at Uppsala University will be provided with funding for drawing up a national programme for the health care service focusing on care to victims of sexual crimes.

2. Greater emphasis on preventive work

The purpose is to enable health care staff to discover at an early stage when women or children, or partners in the same-sex relationships, are being or have been exposed to violence. In order

to be able to offer help and support to the victims and prevent further violence. This will be achieved by educational programmes.

3. Higher standards and greater efficiency in the judicial system

This involves intensified police work to combat men's violence against women and improving the ability of prosecutors to attend to crime victims.

4. Better measures targeting violent offenders

This includes evaluation of methods and procedures used in social service work and the development of social service work with violent male offenders. It also involves Investment in the work of the Prison and Probation Service targeting violent men.

5. Increased cooperation and coordination

Support for the coordination of regional initiatives. The aim is to ensure effective and legally secure support for women exposed to violence and children who have witnessed violence. Support for local cooperation to counteract violence against women. Development of physical environments for the investigation of violence against women.

6. Enhanced knowledge and competence

Establishment of a research programme, since further knowledge is needed concerning men's violence against women. Survey of violence and oppression in the name of honour as well as a survey of arranged marriages.

Egon and Ann Diczfalusy Foundation

The Founder

EGON DICZFALUSY

MD, PhD, Dr.h.c.(mult.), FRCOG, FACOG (Hon.)

Professor emeritus

Karolinska Institutet, Stockholm, Sweden



**Ann & Egon Diczfalusy
(1994)**



**Professor
Egon Diczfalusy**



**Ann & Egon Diczfalusy
(2000)**

Egon Diczfalusy is the scientist who discovered and characterised the Foeto-placental unit, demonstrating for the first time that steroidogenesis in pregnancy is the consequence of a close interactions between the maternal and foetal organisms, via the placenta.

Egon Diczfalusy, is also a dedicated humanitarian idealist and spent the last 35 years helping scientists and scientific institutions in the developing world. As Senior Consultant of the oldest and best known research programme of the World Health Organisation, the Special Programme of Research in Human Reproduction for some 25 years, he helped establishing international networks of researchers devoted to the development of new fertility-regulating agents and to the fight against infertility in Africa, Asia, Eastern Europe and South America.

Egon and Ann Diczfalusy Foundation

Purpose of the Foundation

Supporting scientific work conducted in the field of improving reproductive health, recognising scientific results achieved so far. Launching new research programs, supporting the exchange of junior scientists, promoting and supporting lectures and publications on the subject of reproductive health, organising scientific events. Granting yearly the Diczfalusy Medal, to acknowledge the scientific work carried out by a basic or a clinical scientist and her/his life-time scientific achievements. Presenting, also on a yearly basis the Diczfalusy Award to a researcher under the age of 40, working in the above-mentioned field.

In order to achieve its purposes the Foundation will:

- support the further training of physicians, other professionals and health care workers, as well as assist them to attend conferences in Hungary or abroad;
- launch new research programs in the subject of improving reproductive health;
- support the exchange of scientists and young clinicians;
- organise scientific conferences and congresses;
- promote and support informative lectures and publications;
- organise annually the Diczfalusy Scientific Meeting;
- present the Diczfalusy Medal and the Diczfalusy Award.

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Pre-Columbian ceramics in Szeged

András Varga Dr.
Cultural Anthropologist
"Móra Ferenc" Museum, Szeged, Hungary

In 2007 Professor Egon Diczfalusy donated 56 Central- and South-American ceramics, jade carvings and stone statues to the Faculty of General Medicine of the University of Szeged.

Besides the collection's aesthetic value, it is of considerable professional significance, covering a broad interval in both space and time. Besides the smaller, isolated valley cultures, the large "empires" such as the Chimru (AD 1100-1400), Incan (AD 1200-1531) and Mayan (AD 300-900) empires are represented. We can discern the typical main shapes and motifs of these cultures in these excellent quality pieces.

The collection covers almost 3000 years from the earliest Tlatico specimens from 1500 BC up to AD 500: knife and ceramic kero from the Incan period. The sites of origin of the pieces in the collection range from Mexico to Peru. The statues and ceramics depict human and animal illustrations and mythological creatures in anthropomorphic and zoomorphic representations.

For lack of space, I can not mention every single piece of the collection, but merely some arbitrarily chosen examples.

The Pre-Columbian cultures were characterized by the important role of the fertility cult in the interest of the increase of crops and livestock, and the subsistence of the population. For these reasons, their illustrations emphasize female symbols and pregnancy. Rotundity symbolizes strength, health and greater stamina. We find examples of this in the Nayarit and Jalisco culture ceramic statues in Professor Diczfalusy's collection. Childbirth did not count as a taboo in the ancient Central- and South-American cultures, as proven by many pieces from the Nazca, Chimu and Moche cultures.

In the exhibition, located in the Dean's Office of the Faculty of Medicine at the University of Szeged, we can find a ceramic pot illustrating the birth of a camel.

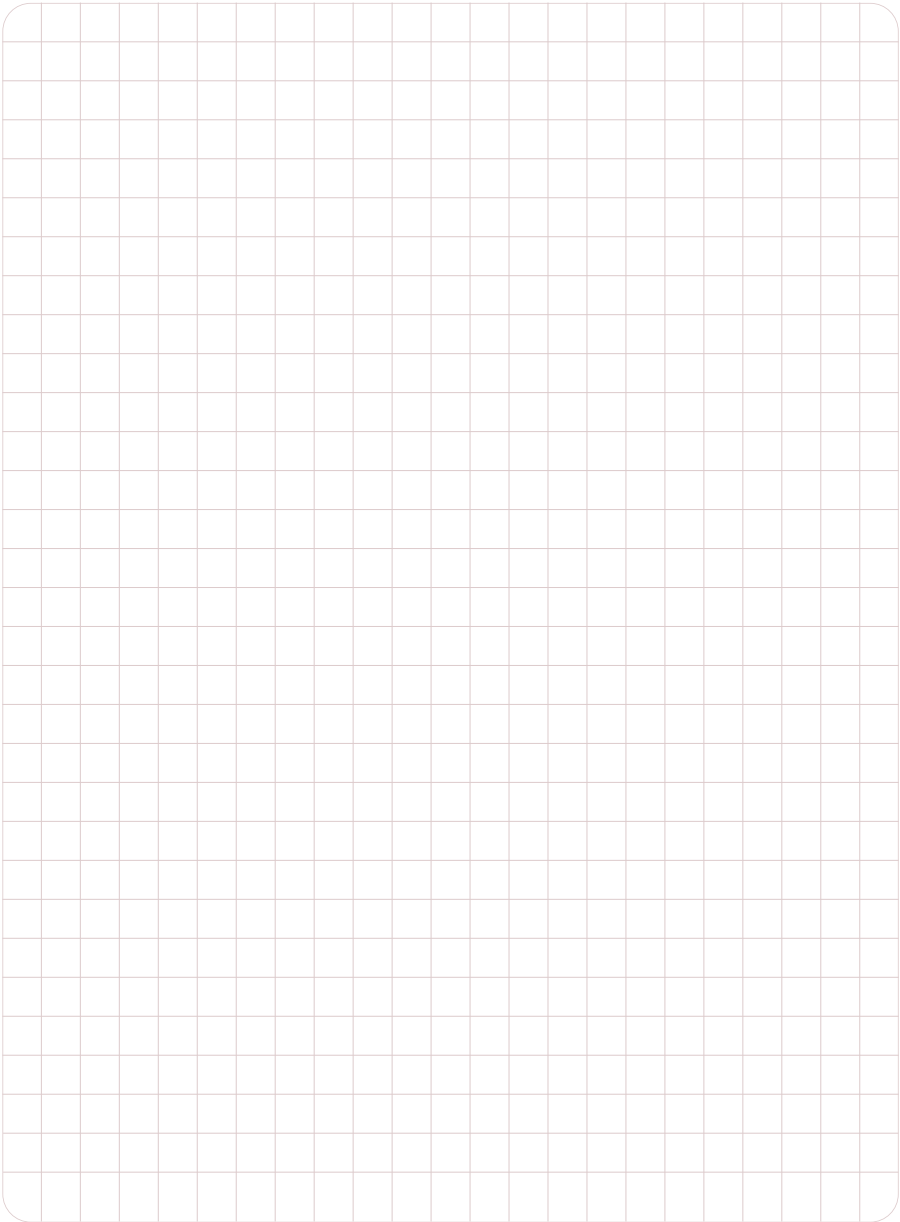
By virtue of their beauty, I would emphasize the Nazca bowls of the collection, which, with their delicately painted patterns, bear witness to the professional knowledge the craftsmen of this period.

With simplicity and modesty, the jade carving from Costa Rica robustly portrays strong features.

The laughing faces of the Vera Cruz culture group with snake- and meander- pictured headdresses are classical examples, as is the painted dish with an animal head spout, representing the Vicus culture (100 BC - AD 400).

This valuable gift from Professor Egon Diczfalusy has found appropriate accommodation in Szeged, but I consider it very important for the collection to receive extensive publicity. With this aim, we intend to exhibit the collection (together with the books also donated to the museum) at the Mora Ferenc Museum in the autumn of 2009.

Notes

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares. The grid is enclosed in a rounded rectangular border.

**Prevalence of cardiovascular risk factors in asymptomatic high risk patients -
EUROASPIRE III Romania Follow-up**

Avram C¹, Craciun L², Iurciuc S², Avram A², Iurciuc M², Gaita D²

¹University of West Timișoara, Romania,

²Victor Babeș University of Medicine and Pharmacy Timișoara, Romania

Introduction

EUROASPIRE I (1995/1996) and II (2000/2001) studies indicated a high prevalence of unhealthy lifestyle, cardiovascular risk factors and their inadequate treatment.

Objectives

The main objective of this study is to emphasize the prevalence of cardiovascular risk factors and to achieve an objective image of practicing cardiovascular prevention in Romanian asymptomatic high risk patients. As well, the study will evaluate the implementation of European recommendation of cardiovascular prevention in high risk patients and will try to optimize their treatment according with the guidelines of cardiovascular disease prevention (2007).

Material and methods

345 patients (58± 9 years, 39% men) evaluated at baseline in EUROASPIRE III Romania were included. Inclusion criteria were: asymptomatic high risk patients with antihypertensive and/or hypolipemiant and/or antidiabetic treatment. Exclusion criteria were: age over 80 years and atherosclerotic diseases. The evaluations (at baseline and another 3 reevaluation in 6 months interval) consists in clinical examination (height, weight, waist circumference, blood pressure, heart rate) and paraclinic examination (fasting plasma glucose and HbA1c - in diabetic patients, blood lipids, qualitative/quantitative microalbuminuria, high sensitive C-reactive protein, breathing CO concentration and ankle-brachial index)

Results and conclusions

The results of this study will show us a comprehensive image about cardiovascular risk factors management in asymptomatic high risk patients. Partial results indicate a high prevalence of cardiovascular risk factors: 78% of patients are hypertensive, 60% are dyslipidemic and 18,4% are diagnosed with diabetes while 37.9% associates 2 respective 6.15% associates 3 from the previous risk factors. 27.1% from patients have BMI>30 kg/m² while 51.2% of women and 21% of men have central obesity (waist circumference > 80cm in women and > 94cm in men). The prevalence of metabolic syndrome according to IDF criteria is 42% which add a high cardiometabolic risk to these patients. The efficiency of treatment in diabetic patients was poor, just a half of them reached the target of HbA1c (<6.5%) according with current guidelines. Just 13% of patients were active smokers with breathing CO concentration over 10 ppm. Regarding more recent cardiovascular risk factors, inflammatory syndrome was found in 20% of patients (CRP>5mg/l).

Finale results of EUROASPIRE III Romania Follow-up study (July 2009) will show us the level of implementation of the current European guidelines for primary prevention and also they will evaluate the efficiency of prevention programmes in clinical practice for reducing the cardiovascular mortality and morbidity.

Improving the risk factor profile in metabolic syndrome by using physical activity monitorsAvram C¹, Craciun L², Iurciuc S², Avram A², Iurciuc M², Gaita D²¹University of West Timișoara, Romania,²Victor Babeș University of Medicine and Pharmacy Timișoara, Romania

Purpose: To demonstrate the benefit of monitored physical activity - heart rate monitor (HRM) and pedometer - in patients with metabolic syndrome (MS).

Methods: The 4 months prospective study included 46 patients (age 43±12 years, 28 women) with MS (International Diabetes Federation criteria), divided in two groups (M and C). Group M (monitored - 32 patients), registered their physical activity level - steps count and HRM during exercise training - using pedometer and HRM. Group C (control - 14 patients), performed subjective assessment of their physical activity level using Borg Scale. General indications regarding diet (low fat, sugar and alcohol) and an individualized physical training programme were set for each patient. Group M intervention consisted in exercise training (3 times per week of 30 minutes at 70-85% of maximal heart rate achieved at initial exercise test evaluation on a treadmill) along with progressive increase in number of walking steps. In group C we prescribed exercise training (3 times per week at score 13-14 on Borg's scale) along with progressive increase in walking distance.

Results: After 4 months of study, 4 patients (12%) from the group M and 1 patient (7%) from the group C did not meet anymore the IDF criteria of MS. We noticed a significant improvement in MS parameters of the group M: waist circumference (W) decreased from 110±15.4 to 104.4±13.4cm (p=0.0006), systolic blood pressure (SBP) from 131.9±11.5 to 128±8.9 mmHg (p<0.0001); serum triglycerides (TG) from 179.3±25.7 to 150.2±22.1mg/dl (p<0.0001) and HDL cholesterol increased from 42±6.7 to 43.5±6.1mg/dl (p=0.007). The average number of walking steps per day recorded with the pedometer increased also from 1695 to 4326. Less significant improvements of MS parameters were noticed in the group C: W decreased from 103±7.8 to 100.9±7.7cm (p=0.04), SBP from 130.7±12 to 128.9±11.4 mmHg (p=0.119); TG from 166.8±13.59 to 153.6±12.3mg/dl (p=0.009) and HDL cholesterol increased from 41.1±6.7 to 41.88±6.4mg/dl (p=0.079). At the end of the study, the self appreciated walking distance increased with 1 km per day (~1250 walking steps) in the control group.

Conclusions: Four months of monitored physical activities at moderate intensity improved the risk factor profile in metabolic syndrome patients (decreased W, SBP and TG and increased HDL) and increased the functional capacity.

The study is a clear demonstration that using simple devices, we can improve the results of exercise training programme - pedometer and HRM are not only safe and effective for improving daily physical activity, but a solution to increase the exercise compliance in patients with MS (the drop outs were almost double in the control group!).

P-3

Significance of 3D-volumetry in gynecology

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Summary: Postoperative partial or complete urinary retention may develop after radical gynecologic interventions. Dysfunction of the urinary bladder may cause urinary retention and increases the incidence of postoperative urinary tract infection. Sonographic assessment of the residual volume of the urinary bladder is an exact, non-invasive, and reproducible method. The authors report on a six-month prospective study of patients with cervical cancer who have undergone radical abdominal hysterectomy (n=17) at the Department of Obstetrics and Gynecology of the University of Pécs and estimated the amount of postoperative residual urine after voiding with two different methods of three-dimensional sonographic volumetry (VOCAL and XI VOCAL) (n=35) and with exact measurement of the retained urine by the catheter. In addition, the authors tested and compared the feasibility and the accuracy of the two different sonographic methods in an in vivo organ-volume estimation and validated the XI VOCAL method in an in-vivo setting. Three-dimensional sonographic volume determination of postoperative urinary retention with the application of the VOCAL- and XI VOCAL- softwares correlated significantly with the actual amount of the retained urine measured by catheterization. If the amount of the retained urine did not exceed 350 mls, the accuracy of the XI VOCAL method was superior to that of the VOCAL. In case of postoperative urinary retention following radical hysterectomy both non-invasive three-dimensional sonographic methods are appropriate for the correct volume determination of the retained urine. With their clinical application we may decrease the number of unnecessary urinary bladder catheterization, reduce the incidence of iatrogenic urinary tract infection, and thus permit a better postoperative comfort for patients.

Key words: Three-dimensional ultrasound, volumetry, XI VOCAL, urinary bladder

P-4

The roles of α_2 -adrenoceptor subtypes in the control of cervical resistance in the late-pregnant rat

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Background and purpose. The roles of the α_2 -adrenoceptor (α_2 -AR) subtypes (α_{2A} -, α_{2B} - and α_{2C} -ARs) in the regulation of cervical resistance have not been investigated. The aim of the present study was to identify these receptors in the late-pregnant cervix and determine their functions *in vitro* in the rat.

Experimental approach. The expressions of the α_2 -AR subtypes were determined by means of RT-PCR and Western blotting techniques. The changes in cervical resistance due to subtype-selective antagonists were investigated in stretching tests (isolated organ studies) *in vitro*, which experiments were carried out in the presence of noradrenaline (10^{-5} M), doxazosine (10^{-6} M), propranolol (10^{-5} M), and the α_2 -AR subtype selective antagonists (BRL 44408 for α_{2A} -AR, ARC 239 for α_{2B} -AR, spiroxatrine for α_{2C} -AR) (10^{-6} M). The cAMP enzyme immunoassay technique was used to detect the level of cAMP following stimulation of the α_2 -ARs.

Key results. On the investigated days (days 18, 20, 21 and 22 of pregnancy), the RT-PCR and Western blot studies revealed the expressions of all three α_2 -AR subtype mRNAs and proteins. On day 18, the presence of ARC 239 enhanced the resistance, while the opposite effect was found on day 20. On day 21, the presence of spiroxatrine increased the resistance. No changes in resistance by the antagonists were observed on day 22. These results were completely supported by the changes in intracellular cAMP levels.

Conclusions and Implications. We presume that the α_{2A} -ARs play a highly predominant role in the regulation of the cervical resistance on days 18-21. Depending on the day of pregnancy, stimulation of the α_{2A} -ARs resulted in opposite effects. This fluctuation can be explained by the changes in the G_i/G_o -activating property of the α_{2A} -ARs, and a putative cooperation with the α_{2B} -ARs. These findings could have important implications in the understanding of the routing of cervical resistance.

P-5

Investigation of uterine-relaxing effect of nifedipine on late-pregnant rat myometrium *in vitro*

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Calcium antagonists inhibit contractile activity of myometrial smooth muscle. The aims of this study were to investigate the effect of nifedipine on uterine contractions on different days of pregnancy and the uterine relaxing action of the nifedipine- β -agonist combination in rat *in vitro*.

Uteri were removed from 15-, 18-, 20- and 22-day-pregnant Sprague-Dawley rats. Contractility assays were performed in isolated organ system; rhythmic contractions were evoked by 25 mM and 100 mM KCl and non-cumulative concentration-response curves were constructed in each experiment.

Nifedipine blocked both the 25 and 100 mM KCl-induced uterine contractions *in vitro*. In the presence of 25 mM KCl the maximum relaxing effect of nifedipine was the most marked on day 22. In case of contractions induced by 100 mM KCl the blocking effect of nifedipine was moderated, by 100 mM KCl the inhibitory action was the highest on day 15, but later this action was quite weak.

The progesterone pre-treatment did not alter the relaxing effect of nifedipine, additionally; its effect became weaker on contractions induced by 100 mM KCl.

Although low concentrations of terbutaline (10^{-7} or 10^{-8} M) combined with nifedipine did not alter the maximum effect of nifedipine, but shifted the nifedipine inhibitory curves to the left suggesting that the same effect can be achieved with less concentration of nifedipine, if the two compounds are combined.

We can conclude that uterine relaxing effect of nifedipine is maintained during the last period of pregnancy, especially in the presence of β -mimetics.

P-6

Prevalence of depression in different groups of obstetric-gynecological patients in the North-Eastern Hungary

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Depression is a common illness in Hungary as well. The authors try to estimate the prevalence of depression among various patients of the Department of Obstetrics and Gynecology, University of Debrecen. 2615 patients were examined with questionnaire methods. The sample composed of the following groups: 725 women on the 3rd day post partum; 165 women 6 month post partum; 355 women from the general outpatient gynecological unit; 269 patients before a gynecological operation; 468 women who underwent hysterectomy; 633 patients from the menopause outpatient unit. The Beck Depression Inventory, the Edinburgh Postnatal Depression Scale and the Greene Climacteric Scale were used. The frequency of maternity blues was 29.8%. The ratio of patients who assessed themselves as moderately or seriously depressed was 6.7% among the patients 6 months after delivery; 12.2% among the patients from the general gynecological outpatient unit; 10.4% among patients before a gynecological operation; 18% in the posthysterectomy group; 29.1% in the perimenopausal group. The frequency of moderate and serious depression measured with BDI in the whole group was 15.3%. The mean value of BDI was 10.35, which is significantly higher than the average value of the Hungarian female population (8.74). Depression remains mostly unrecognized because gynecologists do not take it into consideration.

P-7

Pregnancy induced hypertension, *in vitro* fertilization and mothers age – is there a link?

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AIM OF THE STUDY. The aim of our study was to compare the incidence of pregnancy induced hypertension (PIH) in parturients from the *in vitro* fertilization programme (IVF) and in parturients who conceived spontaneously, from the mothers age aspect.

PATIENTS AND METHODS. The study comprised of 60 parturients from the IVF programme and 60 parturients from the general population. Our study was matched for: mothers age, baby gender, season and the calendar year. The youngest woman was 23 and the eldest was 44 year old. The mean mothers age was 33,00.

RESULTS. PIH was diagnosed in 17.50% out of 120 women. In the study group, there was 18.33% women with PIH (63.64% were elder than 34). In the control group, 16.67% parturients was diagnosed with PIH, but all women were elder than 35. We have not found statistically significant difference in the distribution of PIH in the study and the control group ($\chi^2=0.00$; $p>0.975$). We found a high statistically significant difference in occurring PIH according to the mothers age, between the groups ($\chi^2=7.94$; $p<0.005$), and also a statistically significant difference in the PIH incidence in mothers from two groups, when women were elder than 34: $\chi^2=5.70$; $p<0.05$.

CONCLUSIONS. Our main conclusion is that the mothers age is not so important risk factor for occurring PIH after IVF programme, as it is in parturients who conceived spontaneously. So, PIH as

disease in general population, could be predominantly in the link with the mothers age – while the occurrence of PIH after IVF programme, beside mothers age, might be also in strong connection with some aspects of the IVF programme itself (ovulation induction, laboratory factor etc).

Similarly and indirectly, we can conclude that perhaps there are «more than one kind» of the entity called: Pregnancy induced hypertension.

Key words: Pregnancy induced hypertension, Fertilization *in vitro*, Age

P-8

Progesterone decreases the relaxing effect of BRL37344, a β_3 -adrenergic receptor agonist in the pregnant rat myometrium

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Tocolytic therapy is one of the main unanswered questions of the obstetrical practise. Recently promising results have been published about the function of the β_3 -adrenergic receptor (β_3 -AR) in the regulation of the motor activity of the human myometrium. But all important questions about the mechanism of the β_3 -AR action in the pregnant myometrium can not be answered by human investigations.

Our aim was to assess whether the β_3 -AR also possess essential role in the regulation of the uterine contractility in pregnant rats like in humans. Moreover the influence of progesterone treatment on the function of the β_3 -AR was also investigated.

The experiments were carried out on pregnant, female Sprage-Dawley rats on the gestational days 18, 20, 21 and 22. The expression of the β_3 -AR mRNA and protein was detected by RT-PCR and western blot technique, respectively. The *in vitro* uterus-relaxing effect of BRL37344, a selective β_3 -AR agonist was studied in isolated myometrial rings. To detect the activity of the second messenger system, myometrial cAMP accumulation was measured with a commercial cAMP Enzyme Immunoassay Kit. The effect of a 7-day long progesterone treatment was additionally investigated in the same circumstances.

The presence and the functional activity of the β_3 -AR were proved in the late-pregnant rat myometrium. The maximal dose-dependent uterus relaxing effect of BRL37344 was detected at term in the rat likewise in humans. The order of magnitude of the relaxing action is regarded moderate. The expression of β_3 -AR protein and mRNA remained unchanged during the investigated days. The administration of progesterone had no effect on the β_3 -AR mRNA expression and the maximal relaxation effect of BRL37344, but shifted the dose-response curve to the right and decreased the synthesis of the second messenger, cAMP.

In the light of our results it can be concluded that the β_3 -AR plays an additional role in the regulation of the contractile activity of the pregnant rat uterus. The inhibitory effect of progesterone on the functional activity of β_3 -AR might have important consequences in the case of human application if this effect will be demonstrated in pregnant human myometrial tissue.

P-9

Congenital heart defects and other anomalies in fetuses with increased nuchal translucency and normal karyotype

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Objectives: The association between increased nuchal translucency (NT) and chromosomal aneuploidies is well known. Several studies have shown that in euploid fetuses with increased NT thickness the risk of congenital heart defects, other structural anomalies and fetal death is increased. The aim of this study was to examine the prevalence of these anomalies according to NT thickness.

Methods: From the database of our Genetic Counseling Clinic cases with an NT measurement $\geq 95^{\text{th}}$ centile and normal karyotype were collected and followed up between January 2001 and December 2005. Follow-up of live-born children was by questionnaires sent to parents and reviews of medical records. The rate of different anomalies were analyzed in different NT groups.

Results: The outcome of 99 cases could be followed up out of 119 pregnancies. In the group with NT between 95^{th} and 99^{th} centiles two cases with minor heart problems were identified (10.5%, 2/19). The rate of major cardiac defects proved to be 13.5 % (5/37) in the group with NT between 3.5-4.4mm, and 20% (7/35) in the group with $\text{NT} \geq 4.5\text{mm}$. The rate of other structural anomalies were 26%, 32 % and 34% in the different groups respectively (altogether 27 minor, 10 major). Among the 27 healthy children with various minor health problems not related to the presence of increased nuchal translucency there were 5 cases with hydrocele. In 2 of them it was associated with unilateral inguinal hernia but in 3 it was isolated. In the whole study population eight cases (8.08%) ended up in miscarriage or intrauterine death.

Conclusion: The prevalence of major cardiac defects as well as other major anomalies increases with fetal nuchal thickness. These data can be used when counseling parents with pregnancies with increased fetal NT. Specialist fetal echocardiography should be offered in the second trimester together with other follow-up investigations. Despite the numerous investigations the exact etiology of increased NT remains unknown. The relatively high prevalence of hydrocele in the newborns in our material raises the question whether it is related to the presence of NT in the fetal period because of abnormal lymphatic development or alterations in the extracellular matrix. Further long term follow-up studies could probably contribute to find explanation on the etiology of increased NT in the first trimester.

P-10

Human chorionic gonadotropin does not influence the intracellular calcium ion concentration in human endothelial cells

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Introduction: Human chorionic gonadotropin (hCG) is a very important growth and differentiation factor during early pregnancy. Several investigators analysed extragonadal functional hCG/LH receptors. Human chorionic gonadotropin has actions through various signal transduction-pathway. Adaptation of the uterine vasculature to the rising needs of the fetus occurs for both angiogenesis and vasculogenesis. Human chorionic gonadotropin was described to play a possible regulatory

role in placental angiogenesis. It has been demonstrated, that one pathway of angiogenesis is cAMP-protein kinase A system. Analogous with other actions of hCG, we investigated another second messenger system of the human chorionic gonadotropin in connection with the regulation of angiogenesis. The aim of our study was whether hCG may influence the intracellular calcium concentration in human umbilical vessels' endothelial cell culture.

Materials and methods: Human umbilical cords were collected from deliveries by caesarian section. Endothelial monolayer cell culture was prepared from umbilical vessels. The cell culture was treated with hCG, and we measured the intracellular calcium ion concentration with fluorescent confocal microscopy. In a second constellation we measured the calcium ion current with patch clamp technique in the endothelium.

Results: There was no significant release in the intracellular calcium ion concentration in endothelial cells through the effect of human chorionic gonadotropin.

Discussion: the action of human chorionic gonadotropin on human umbilical vessel endothelial cells is not by the second messenger of calcium but another mechanism of signal transduction. In order to understand the effect of human chorionic gonadotropin hormone on umbilical vessels' endothelium further investigations are requested.

P-11

Epidemiological data of induced abortion at the Department of Obstetrics and Gynaecology of Szeged in the last six months

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Despite the fact that modern contraceptive methods are widespread in Hungary as well as in other EU member countries, the rata of induced abortion is rather high in our country. A survey was conducted on the object above among women who are seeking for induced abortion. In Szeged after integration of the Obstetrical Hospital induced abortions are only performed at the Department of Ob&Gyn University of Szeged.

The aim of our study is to gain information of the social, economical and medical background of those women who are requesting induced abortion.

The questionnaire consists of different type of questions regarding to general data, menstruation, contraception use, abortion and child bearing.

The survey started in March 2008. Since then 209 questionnaires were fulfilled. I wish to represent the epidemiological data based on the 209 questionnaires.

P-12

Hormonal contraception use in women with migraine headache

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Objectives

Migraine, as a primary headache is often found in young women in reproductive period. Nowadays most women prefer to use hormonal contraception methods, namely „antibaby pills”. It is known

that using these hormone-contained tablets can influence headache course. In our clinical study we assessed the effects of combined oral contraceptives (COC) to migraine in Hungarian women.

Methods

With approval of the local ethical committee (University of Szeged, Szeged, Hungary) questionnaires containing 25 questions were delivered by postal way to the patients. Questions referred to menstrual cycle, to features of headache, and to contraception habits. 265 questionnaires were sent out, and 166 came back. The migraine patients were 20-45 year old, and they are the patients of the Headache Centre of the Department of Neurology, University of Szeged, Szeged, Hungary.

Results

The response rate of the sent-out questionnaires was 62,6%. Based on data from 166 questionnaires, 62 women did not use COC who had been excluded. 104 out of 166 women migraineurs, who used COC, the migraine worsened in 39,4% (41 cases), did not change in 55,7 % (58 cases), and improved in 5 cases (4,8%).

Conclusion

The response rate of the applied postal written interview was good (62,6%). In our study the effects of the combined oral contraceptives on the migraine headache were: mostly no change, in one-third of our patients worsening, and only in a few cases improving. This data is in correlation with other similar clinical studies.

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P-13

Functional investigation of pregnancy-induced denervation of the rat during generalized inflammation

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Introduction. Pregnancy induces a profound degeneration of all the nerves (adrenergic, cholinergic and peptidergic) supplying both the myometrium and the uterine vasculature. Generalized inflammation is believed to increase the contractility of the pregnant myometrium, meaning a risk factor for premature delivery. As adrenergic system is involved in the regulation of uterine motor activity, the effect of inflammation could be mediated through the modulation of the denervational procedure. The aim of the present study was the functional investigation of the interaction of pregnancy-induced adrenergic denervation and generalized inflammation. The degeneration of adrenergic fibers was assayed by superfusion technique. The consequences of the denervation and inflammation were characterized by generation of concentration – response curves on isolated uterine rings as a function of gestational age.

Material & Methods. Generalized inflammation was elicited in SPRD rats by subplantar administration of 0.5 mg killed *Mycobacterium butyricum* before 14-21 days of the experiments. All experiments

were performed with samples from nonpregnant, mid-pregnant (day 14) and late pregnant (day 21) animals. Superfusion studies were performed with myometrial samples saturated in [³H]noradrenaline. Buffer was perfused through them for collection of 22 three-minute fractions and electric field stimulation (EFS) was applied during 5th and 15th fractions. Radioactivity of the fractions was measured as well as that of the remaining myometrial sample after solubilization. The effects of adrenergic agonists (noradrenaline and terbutaline) were investigated by cumulative dose response curves on isolated uterine rings. In a separate set of experiments EFS was applied to isolated rings for further description of gestational denervation. At least 5 independent experiments were used for statistical evaluation of the results.

Results. The myometrial [³H]noradrenaline uptake and electrically induced liberation as well as electrically induced contractions were substantially decreased by inflammation. The effects of adrenergic agonists on the myometrial contractility were modified in the presence of systemic inflammation. The contractility of the myometrium was shifted toward a higher motor activity when exposed to exogenous sympathomimetics

Conclusion. Pregnancy-induced adrenergic denervation is more pronounced in the presence of generalized inflammation. As a consequence, the motor activity is increased and terbutaline exerts a decreased relaxant effect on the myometrium. It is concluded that the increased uterine contractility is – at least partly – mediated through the adrenergic system.

P-14

Transvaginal endoscopy in the investigation of the infertile couple

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Objective: The objective of this study is to evaluate the feasibility and acceptability of transvaginal endoscopy based approach, in One Stop infertility investigation.

Design and Methods: We present a prospective observational study. Infertility investigation involved interview with a couple, review of blood and semen analysis, pelvic ultrasound, diagnostic hysteroscopy and transvaginal laparoscopy (TVL). Outcome measures were feasibility of investigations, findings, evaluation of a management plan.

Results: 160 couples met our selection criteria and attended the investigation. Hysteroscopy was successfully done in all cases, and in 91% of cases, pathology was treated in the same procedure. TVL failed in 8 women. The first five failures were in the first 25 procedures. We had two extraperitoneal bowel perforations, both were examined with laparoscopy immediately and severe endometriosis was found. After the reevaluation, the endometriosis could have been suspected but was overlooked and is considered as a part of a learning curve. The surgical treatment (laparoscopy) was suggested in 32% of women whom were found to have pelvic pathology. The investigation was well tolerated and all patients left the hospital 2-3 hours after the procedure. There were no readmissions.

Conclusion: The use of TVE in the infertility investigation is well tolerated, feasible but not suitable for all couples. Some laparoscopies are avoided and length of time needed for infertility investigation is considerable shortened.

Notes

A large grid of graph paper for taking notes. The grid consists of 20 columns and 30 rows of small squares. The grid is enclosed in a rounded rectangular border.

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