



WFSLMS

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# NEWSLETTER No.20

World Federation of Societies for Laser Medicine and Surgery

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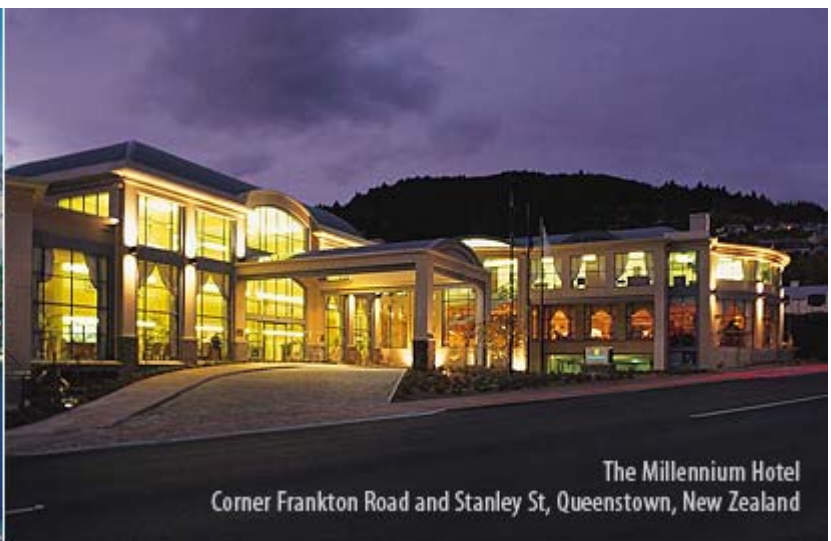
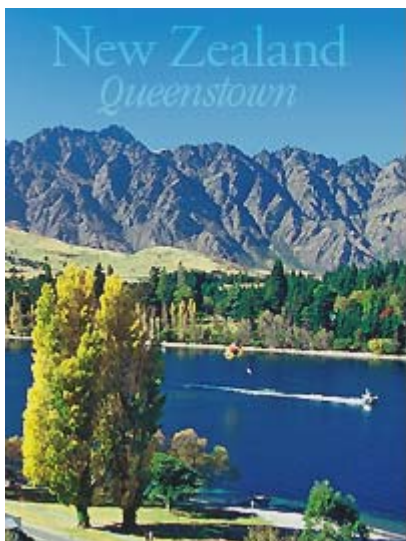
- **2<sup>nd</sup> Congress of International Phototherapy Association**

2<sup>nd</sup> Congress of International Phototherapy Association (IPTA) will be held in New Zealand on April 27 to 28. The primary focus of the meeting will be on the science and art of phototherapy, laser therapy, and laser acupuncture, used for the treatment of disease, and the promotion and enhancement of health. Please join us!

The detail information is <http://www.nzlaser08.org/index.php>.

We will look forward to seeing you in New Zealand.

David Baxter, Congress President of IPTA



The Millennium Hotel  
Corner Frankton Road and Stanley St, Queenstown, New Zealand

## ● 3rd Congress of the Japan Society of Laser Reproduction

It is my great pleasure to report 3rd Congress of the Japan Society of Laser Reproduction (JaSLaR) was held in Tokyo, Japan on March 16, 2008.

I put the program and one abstract as your information.

Toshio Ohshiro, President of JaSLaR

### ➤ Program

#### Opening Announcement

President of JaSLaR Bunpei Ishizuka MD

#### Chairman's Lecture

The present state of advances in laser surgery and medicine

Chair: B. Ishizuka ( St.Marianna Medical School)

Speaker: T. Ohshiro (Japan Medical Laser Laboratory)

#### Educational Lectures

##### 1. Aging of female functions and healthcare for post-menopausal women

Chair: B. Ishizuka ( St.Marianna Medical School)

Speaker: H. Kurati (Yamagata University)

##### 2. Male dysfunctions and aging: risk factors and treatment

Chair: H. Ishikawa

(Tokyo Dental and Medical University, IchikawaHospital )

Speaker: K. Marumo

(Tokyo Dental and Medical University, IchikawaHospital )

##### 3. The efficacy of ovarian blood flow evaluation in ART

Chair: Y. Nagata (IVF Nagata clinic)

Speaker: I. Honda (Yamachika Memorial Hospital)

##### 4. Function and blood flow of female reproductive organs

Chair: M. Inoue (Sannoh Hospital)

Speaker: N. Sugino (Yamaguchi University)

#### Board Meeting: Japan Society for Laser Reproduction

**Luncheon Seminar and Demonstration** (Co- sponsored by Japan Medical Laser Laboratory)

The proximal priority treatment for female infertility using the GaAlAs semi-conductor laser

Speaker: T. Ohshiro Jr. (Ohshiro clinic)

### **Workshop 1. Laser assisted hatching**

Chair: Y. Araki (Advanced Reproductive Medicine Laboratory)

1. Comparison between conventional and laser assisted hatching and their efficacy

Speaker: A. Fukuda (IVF Osaka clinic)

2. The effect of zona thinning with lasers and its effect on spindle formation

Speaker: H. Yano (Yano Gyne. & Obst. IVF center)

3. Reconsiderations on the indications of LAH

Speaker : H. Kamiya (Kamiya Ladies Clinic)

4. The method and record of laser AH at our clinic

Speaker: Y. Asada (Asada Ladies Clinic)

### **Workshop 2**

Chair: Y. Miyakawa (Ohita University)

1. The evaluation of ovarian functions through vascular growth factors

Speaker: Y. Kohno (Ohita University)

2. Fecundity and intra-ovarian vascular resistance

Speaker: H. Saitoh (National Center for Child Health and Development)

3. The efficacy of low reactive level laser therapy for the treatment of female infertility

Speaker: H. Tamura (Tamura Hideko Gyne. & Obst. Clinic)

4. A study of blood flow increase by laser treatment and its effect on reproductivity

Speaker: Y. Nagata (IVF Nagata Clinic)

### **Symposium: Anti-aging**

Chair: S. Suzuki (Tokyo Reproductive Biology Symposium)

1. Interaction of laser light and living cells

Speaker: T. Ohshiro Jr. (Ohshiro Clinic)

2. Age changes of the female reproductive organs and genitalia

Speaker: Y. Kurasawa (Ginza Women's Clinic)

3. The application of DHEA for aging ovaries

Speaker: A. Usui (Usui Clinic)

4. Study of HRT performed as part of treatment for cosmesis

Speaker: M. Yoi (Yoi Clinic/ Dokkyo Medical University)

5. Melatonin and reproduction

Speaker: M. Itoh (St. Marianna Medical University)

### **Closing Ceremony**

Vice President of JaSLaR Isao Miyagawa MD

## **The Efficacy of Ovarian Blood Flow Evaluation in ART**

**Ikuko Honda, Yamachika Memorial Hospital**

In the practice of infertility treatment, ultrasonography (US) gives us a great deal of information concerning the uterus, ovaries and oviducts. In the ovaries, ultrasonography allows us to observe real time changes taking place within them, such as the development of follicles, ovulation and luteinization. Recently attempts have been made not only at evaluating the morphological changes of the follicles and ovaries, but also to assess the function and quality of the follicle and ovum through measurements of ovarian blood flow. In the field of ART, in order to increase the pregnancy rate and to decrease the miscarriage rate, the selection of the most suitable cycle becomes vital. In the past there have been several methods of ultrasonographic evaluation for the collection of better quality ova. The Antral Follicle Count (AFC) is effective in predicting the ovarian response to human menopausal gonadotropin (hMG) stimulation, however such predictions are irrelevant in predicting pregnancies. Follicle monitoring is useful in estimating the day of ovulation, projecting the number of ova collected and predicting ovarian hyperstimulation syndrome (OHSS). However, during hMG stimulation, monitoring each and every follicle for its growth is very time consuming; although the follicular diameter ( Wittmack, *et al.*, 1994) is widely used as an index for projecting the number of ova to be collected and fertilization and cleavage of the embryo, this index does not apply to the maturity and quality of a specific ovum. In 1996, Zaidi first reported the correlation between ovarian mesenchymal blood flow and response to stimulation, which powered the conjecture that increased blood flow could result in increased gonadotropin reaching the ovary. In a study by Van Blerkom, *et al.*, the correlation between the pre-collection perifollicular blood flow evaluations by a color Doppler, performed after hCG injection, was reported, in addition to the intra-follicular oxygen concentration, VEGF levels and the incidence of aberrations in chromosome alignment caused by the spindled bodies of M II stage ova. This put somewhat of a damper on the widely anticipated concept that blood flow evaluation could increase the sensitivity for the selection of the cycle for collection. However, limitations due to the capabilities of the ultrasonography hardware, subjectivity of the examiner and patients' individual idiosyncrasies can affect the results greatly and differences in the results are unavoidable. The most recent blood flow evaluation method by Power Doppler Angiography (PDA) and VOCAL (virtual organ computer-aided analysis) can standardize various parameters of the fields of interest, thereby making objective comparisons possible (Pairleitner *et al.*,

1999). The authors present the characteristics of ovarian blood flow from the point of Vascular Index (VI) and Flow Index (FI) which are the indices of this method. The authors will also present data, collected with this method, on ovarian mesenchymal blood flow at the start of menses and compare it with the perifollicular blood flow just before ova collection, and show how it related to the outcome of the following ART. Perifollicular neovascularization and increased blood flow are essential for the success of ART. The authors discuss the efficacy of ovarian blood flow evaluations and present problems which need to be solved in the future.