Laser Florence

A WINDOW ON THE LASER MEDICINE WORLD

LASER FLORENCE 99
RAPPORT

Laser Florence International Expo-Meeting has been particularly rich of new and interesting events also because it has been twinned to the 14th Laser Medicine International Congress previously organised in Munich, Germany, by Prof. W. Waidelich.

The President of the German Society of Surgery and Medicine and Director of the Institute of Paediatric Surgery of Berlin University, J.Waldschmidt, has illustrated the correct use of laser in the removal of big angiomas of the gastric-intestinal tract, of retro-peritoneum lymphangiomas as well as in laparoscopic hystero-colpectomy of intersexual status, emphasising advantages and limitations.

Prof. Dix Poppas, Director Laboratory of miniinvasive surgery, New York University, USA, delivered a magistral lecture on Laser Tissue Welding. This technique is based on the use of a plutosensitive substance which, submitted to laser irradiation, produce effective tissue welding avoiding the use of surgical sutures.

T. Reiss, Augsburg University, Germany, has demonstrated the use of diode laser in the treatment of metrorraghia for endometrium interstitial ablation.

Dr. Navratil (Prague University) has shown a poster on the use of polarised light episiotomy.

Dr. Stern (Dortmund) has illustrated the experience of his group in the treatment of chronic lombosciatic pain with Neodimium-YAG and Olmium-YAG laser.

Penny Smalley, L.N., Director Technology Concepts International, Chicago, and Donna Gabriel, Harvard Medical School, Massachusetts General Hospital, Boston, has reviewed the role of paramedic personal using laser technology as regards safety norms.

Great interest has been attracted by depilation by laser and other light sources. Together with ruby and diode laser (W. Baeumler, Ragensburg University), the only ones approved for depilation by FDA, has been presented with Alexandrite laser of different duration (D. Touma, Boston Univ.), Nd-YAG (D.E. Schavelzon, Buenos Aires). A workshop has been established on the role of light sources in depilation directed by Prof. Bjerring (Aarhus University, Denmark).

Of great interest has been the session on photodynamic diagnosis, chaired by Prof. A. Hofstetter (Munchen University), photo-sensible fluorescent substances previously administered, once activated by irradiation with specific lasers, are capable of clearly distinguishing normal from pathologic cells. Subsequently pathologic cells can be totally eliminated with photodynamic laser therapy, using other photosensitive substances which fix themselves to pathologic tissue and become citocide if activated by laser irradiation (R.Waidelich, Munchen University).

2.

In particular, a substance has been examined, 5-ALA, used in the diagnosis of tumour of the bladder surface (R. Baumgartner, H. Stepp, Munchen University), of the uratelium (H. Hola, Muchen University) of oral and laringo-bronchial mucosa (H.Stepp) and of malignant glioma (S.Stocker, Munchen University).

M. Pascu (Atomic Institute, Bucharest University) has shown experimental studies on the use of photodynamic therapy with several substances and pulsed…lasers, while H. Tsutsui (London University) has studied the behaviour of a substance which is photosensitive to vary in laser irradiation (low intensity, continuos or pulsed).

O. Marangoni (Trieste) has shown how laser ray absorption on superficial tissues varies, if colored inert substances are applied to the skin.

Prof. E. Tomasini (Ancona University) has presented a new type of laser doppler velocimeter.

Prof. H. Klima (Wien University) has studied the effects of new coherent light and of lasers on tumour cells.

Interesting new features of Herbium-YAG laser have been presented by Prof. R. Shori of Los Angeles University, USA.The impulse duration is increased, absorption coefficient of Herbium laser ray in water is reduced, therefore increasing Tissue penetration.
At the same power this behaviour is different for CO2 laser, whose absorption coefficient remains the same.

Khalil Khatri (Massachusetts General Hospital – Harvard University, Boston) has shown how in clinical work this finding can be used in face skin resurfacing: with 700 milliseconds duration pulses the residual thermal damage iis the same as with shorter pulses while the healing time is remains the same and some positive effects is noticeable on haemostasis.

K Sawatzki(Tubingen University)has demonstrated advantages and disadvantages of laser skin resurfacing with CO2 Laser Ultrapulse, while D. F. Kamin (Encino, California, USA) has shown the results obtained using Herbium-YAG and Co2 lasers together. P. Voigt (Berlin University) has indicated Rhinophima treatment with CO2 Laser. Pre- and Post-operative treatment of patients submitted to laser resurfaing has been presented and discussed by L. Longo (Siena University). Applying certain natural substances(Aloe vera, Echinacea, Asialen) locally, first, during and after laser treatment, it is possible to reduce healing time in a statistical significant way.L. mazzi 8Verona) has given his experience on no-surgical laser treatment of keloids and hypertrophic scars, following the dosage indicated in literature but changing the type of laser (diode).The experimental use of laser 511-577 nanometers in the treatment fo skin atrophic lines has been presented by L. Longo (Siena Univ).

3.

Well attended has been the session on otolaryngology, chaired by S. Wolf (Erlangen University), G. Bastianelli (Pavia University) and A. Tenenbaum (Moscow Acad. Of Sciences). Prof. Westhofen, Director Department of Otolaryngology, Aachen University, Germany, and Prof. J. Illgner of the same university have listed very clearly limitations and advantages of Neodymium-YAG laser in endonasal sinuses surgery in chronic sinusitis and nasal polyps, giving also the follow-up of the treated patients. The state of the art on surgical laser use in endo-nasal surgery has been reviewed by R. Sroka (Munich University), while Lutz Wilden (Bad Fussing, Germany) has discussed effective use of non-surgical laser with normalization of objective instrumental data after treatment. M. Prochazka (Prague University, Czech. Rep.) has confirmed the effectiveness of non-surgical laser on tinnitus. B. Sedlmeier, Berlin University, has shown a video on treatment of laringo-tracheal papillomatosis with CO2 and Neodymium-YAG lasers and myringotomy with CO2 laser. Prof. C. Mereu (Genova University) has presented preliminary results of laser-assisted virtual bronchoscopy. S. Jovanovic (Berlin University) has shown laser surgery of middle ear with CO2, Herbium-YAG, Argon and KTP lasers, and stapedectomy with CO2 laser. Emmerling (Aachen University) has presented results of submucosal turbinectomy with Neodymium-YAG laser. Several posters have illustrated further applications of laser in otolaryngology. Among these, M. Tulibacki, ENT Medical Academy of Warsaw, Polland, on the Nd-YAG laser treatment of OSAS and endonasal surgery, W. Beyer 8Munich University) on optical tomography laser on middle ear structures. Indications and limits of lasers in the treatment of telangiectases have been brought up to date by D. Cassuto (Milan), and L. Longo (Florence), while A. Del Giglio (Verona) has presented an experimental method of treatment of saphaena collateral veins. V. Mikhailov (Moscow) has listed a series of laser uses, both therapeutic and surgical, in oncological terminal cases.

The session of laser dentistry directed by Prof. G. Lynn-Powell, Director, School of Specialization in Dentistry, Salt Lake City – Utah University, USA has shown new onta on the basis of the revuew of world literature made by J. Tuner (Grangersberg, Sweden) on clinical abd bacteriological studies, on Nd-YAG therapy of gingivitis (C. Colojara, Timisoara University, Romania), on the study on Herbium-YAG and Alexandrite laser penetration on tooth and bone (T. Dostalova, Prague University), on their role in implantology (L. Himmlova, Prague Univ.), on Nd-YAG treatment of herpes and aphtosis lesions (F.M. Parkins, Louisville University, USA), on the technique of laser welding applied to teeth (W.D. Muller, Berlin University) and on the study of argon laser on cement (M. Curti, Bordighera). There were many papers on non surgical and on polarized light lasers, from basic research on action mechanisms, some of which are now quite clear (R. Lubart, Bar-Ilan Univ., Israel; K. Samoilova, San Petersburg Univ., Russia; M. Schaffer, Munchen University, Germany), to dosimetry (A. Mester, Budapest University, Hungary; M. Pascu and C. Antipa, Bucharest University, Rumania; A Zajac, Warsaw Acad. of Medicine), to clinical research, with presentation of protocols and results (Z. Simunovic, Locarno, Switzerland; T. Trobonjaca, Opatjia, Croatia; W. Beyer, Munich, Germany; S. Giavelli, Milan ,G. Tam, Tolmezzo, D. Ingletto and G. Franz, Rome, Italy; L. Lupusoru and C. Ailioaie, Jassy, Rumania; L. Navratil and B. Navratilova, H. Kucerova, Prague University, Czech Rep).

4.

Some posters referred to myocardial re-vascularization with laser (H. Jelinkova, Prague University) and perforation with vessel substitutes with lasers Ti:S (V. Schmidt, Wien Univ., Austria).

The most important world industries in this sector have exposed the latest instrument and three hundred fifty attendees from all over the world have demonstrated that laser Florence Meeting and Courses has become part of the most relevant international "rendez-vous" both for experts in this subjects as well as new adepts, who have filled the seven theoretical-practical courses organized especially for them, in collaboration with major international and national institutions and with the late methods of teaching, self-evaluation and self-teaching.

The Proceedings of Laser Florence 99 will be ready in the first few months of 2000 and printed by the Society of Photo-optical Instrumentation Engineers (SPIE), Bellingham (USA) in the sPIE Proceedings publication series. The abstracts Book is available on the web site of the European Medical Laser Association (EMLA), (www.emla.net). Keeping on our commitment we hope that Laser Florence 2000 foreseen for the October 18th-22nd 2000 will been even more fruitful from the scientific point pf view in the interest of everybody.

Leonardo Longo, MD
Mariano Postiglione,MD