

**Report from ICHS, Pesaro
Giammaria Fiorentini***

* Department of Oncology-hematology Azienda Ospedaliera Ospedali Riuniti Marche Nord,
61121, Pesaro, Italy

Report from ICHS, Pesaro

The 34th Annual Conference of the International Clinical Hyperthermia Society (ICHS) was held in Pesaro, Italy on September 22nd 2016. The meeting was very successful with more than 100 attending doctors and Prof. Giammaria Fiorentini was its chairman. The Conference was dedicated to the memory of Dr. Gianfranco Baronzio, a pioneer of hyperthermia, who suddenly deceased this year due to heart attack.

The conference offered the chance to meet experts of all fields of hyperthermia coming from several countries of the world, and to learn their experiences and researches in order to explore hyperthermia treatment application in cancer and other diseases.

An important part of the conference was dedicated to the presentation of results about the efficacy of capacitive hyperthermia alone or in combination with chemotherapy and radiotherapy.

The conference was divided into seven sessions devoted to many aspects of hyperthermia. The theme of the congress was the development, over the past 20 years, of modern hyperthermia technology that advanced rapidly in the clinical treatment of various benign and malignant diseases.

Hyperthermia is now widely used in a lot of countries. Its curative and palliative treatment effects in combination with other treatment methods are extensively reported. Today the doctors can find in the “tools box” to treat tumors with hyperthermia as a significant part of entire cure.

The first session of the congress was dedicated to “Biologica basics, experimental and technical studies on Hyperthermia”. Dr. Von Ardenne from Germany reported the technique of whole body hyperthermia and clinical records of treatments done for fibromyalgia syndrome. Dr. Di Dia from University of Turin presented the critical issues in the use of double antennas in superficial hyperthermia therapy.

Professor C. Pang reported interesting data on hyperthermia and oncothermia as an important part of natural medicine. His presentation entitled “Place and role of clinical hyperthermia in combination with traditional Chinese medicine” was very significant and showed that together with official medicine the integrative natural therapies also play very important role in actual treatments as in the medical history of human development. With the development of modern medicine and the progress of the society, it has been well perceived that natural therapies, due to their safety and less side-effect, have attracted more attention. Natural therapies, including traditional Chinese medicine, are gradually becoming a new model of the modern medical treatment in the world.

Dr. Sergey Roussakow from Moscow presented the place and role of clinical hyperthermia in the system of thermotherapy in oncology. He stressed that let’s define what we are doing in this field.

K. W. Sung, N. Winters and T. Morita K.W. were the discussants of this session.

In the second session, the topic was “Clinical evidences of increasing survival adopting hyperthermia alone or in combination with anti-cancer methods”.

Dr. Brenner from Tel Aviv reported personal experiences on a lot of clinical records and many international studies where hyperthermia is a landmark stone in the tools box of cure. He reported the possible combinations with biologicals and new drugs.

Dr. Hussein from Germany presented the results of combination of traditional chemotherapy and hyperthermia in colorectal cancer patients showing the increasing results of this double approach.

Dr. Ranieri from the National Cancer Institute of Bari, South Italy presented very interesting new studies reporting how to increase tumor antigens using hyperthermia before anti PD-1 therapy. His experience showed how to move from theory to practice. It seemed that oncothermia and extreme hyperthermia, as microwave ablation or RFA, could enhance the immune responses to pembrolizumab and nivolumab. Dr. Ranieri won the award of ICHS 34th edition with this work.

Then Dr. Roussakow reported the pharma-economic studies of oncothermia for the treatment of lung cancer showing many advantages in respect to chemotherapy in III and IV cancer stages.

Prof. Andras Szasz presented a lecture entitled: “Quo vadis oncological hyperthermia: update 2016”. He underlined all the main topics of the field reporting highlights, significant data and studies, and was awarded for his role in oncothermia development as leader of oncothermia field.

Dr. Z. Hongyu was the discussant of this session.

The third session was devoted to results and perspective of hyperthermia associated with radiotherapy and chemotherapy. Dr. Minnaar Straus from South Africa reported a precious experience in the treatment of cervical cancer in a country with high incidence of poverty and with many HIV positive patients.

Prof. Maluta from Padua, Italy presented a worldwide status of hyperthermia.

Dr. Di Dia reported the results of combination of hyperthermia and radiotherapy in pancreatic cancer. Dr. Dall'Oglio from University of Verona presented the favorable integration between radiotherapy and hyperthermia in prostatic cancer.

Dr. Z. Xinting and T. Khuayjarernpanisk were the discussants of this section.

The fourth session started after the lunch break with the workshop on local hyperthermia done by Dr. Oliver Szasz. He presented an overwhelming lecture with many actual hypothesis and studies. After Dr. Szasz' s overture Dr. Hussein presented the second workshop on whole body hyperthermia.

The fifth session was devoted to extreme hyperthermia in lung and liver lesions done by mean of RFA and microwave ablation. Dr. Di Ceglia, from the National Cancer Institute of Bari, South Italy presented patients treated with RFA in the lungs and Dr. Tarantino from Naples reported wide experiences of micro wave ablation in liver metastases. He presented this paper very successfully also in Barcelona where a month ago the European Congress of Interventional Radiology (CIRSE) was held.

The sixth session was dedicated to peritoneal surface malignancies treated with cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (part I). Dr. Kusamura from Japan reported the state of the art, then Dr. De Simone from the National Cancer institute of Turin, Italy and Dr. Sammartino from Catholic University of Rome showed interesting data of this approach in ovarian cancer. They said that in selected patients after adequate cytoreductive

surgery the hyperthermic peritoneal perfusion could have better results than surgery alone. Then Dr. Graziano from Oncology Unit Azienda Ospedaliera Marche Nord Pesaro, Italy reported the use of C-Parp inhibitors in ovarian cancer.

Dr. Deraco from the National Cancer Institute of Milan discussed in the debate the opportunity to combine peritoneal perfusion with external hyperthermia and oncothermia. Further studies should be warranted on this interesting topic.

The seventh session was devoted to peritoneal surface malignancies treated with cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (part II).

Dr. Deraco from the National Cancer Institute of Milan reported a very high scientific presentation on peritoneal mesothelioma showing the superiority of surgery combined with chemotherapy administered by hyperthermic perfusion in term of responses and survival. Dr. De Manzoni from the University of Verona reported their experiences on gastric cancer and Dr. Catalano from Oncology Unit Azienda Ospedaliera Marche Nord Pesaro, Italy presented an interesting talk on ramucirumab, a new drug against gastric cancer.

Dr. Baratti from the National Cancer Institute of Milan made a final lecture on peritoneal carcinosis from colorectal cancer.

In the final statements and conclusions Prof. Pang, Prof. Fiorentini and Prof. Szasz underlined the needs to have more well prepared studies and clinical trials to reinforce hyperthermia's positions in the scenario of oncological treatment options.

They said: "Up to now every one of us reports a lot of personal experiences, small series of patients treated differently and successfully. In the literature, there are few new believable data and trials compared with the high possible theoretical and clinical advantages offered by hyperthermia, so we must promote well planned and conducted trials, better if some of those randomized. We should organize, in our ICHS, a steering committee able to write some simple, easy to do, repeatable, feasible studies."

They stressed that another problem is the poor economic resources for hyperthermia. The investments of industries producing the hyperthermia devices and machineries are very low compared to those spent by pharmaceutical corporations. So, we need to find a way to join with their programs in order to receive economical support for common studies. We have a great opportunity now. With the new generation of immune-stimulating drugs, such as ipilimumab, nivolumab and pembrolizumab we have an extraordinary and amazing opportunity to combine these with hyperthermia.

Our immune system, even if stimulated by these new drugs, can recognize only 5% of all cancer antigens. So, the results are still poor in the fight against cancer, even if the total costs have increased to thousand billion of dollars.

The vast majority of researchers engaged in the field of immunology are thinking that loco-regional approach as Radiofrequency ablation, intra-arterial application of drugs, modern radiotherapy and hyperthermia, above all in my opinion, can induce more amounts of neo antigens.

Hyperthermia, in particular oncothermia, will produce not only neo antigens damaging the membrane of tumor cells, but also increasing the lymphocyte trafficking inside the tumor, amplifying the chances to recognize antigens and inducing a positive and favorable immune response.

After hyperthermia, an increasing amount of antigens will be freed and recognized and so more response should be obtained with these new immune-drugs, thus reducing costs and toxicity.

The Professors concluded that “ICHS is a worldwide scientific Society that need to be supported by us all. Together we do it better and better.”

At the final speech of the Conference Prof. Pang invited all the doctors and scientists to take part in the next 35th annual Conference of the International Clinical Hyperthermia Society (ICHS) that will be held in China in November 2017.

In the central part of the congress, other awards were given to Dr. Carrie Minaar Strauss, Dr. Sergey Roussakow and Prof. Clifford Pang for their scientific contribution and Dr. Brenner received a special prize from Oncotherm as best research of the congress.

Two men (35 and 29 years old) were also awarded for their courage and wish to live after 12 and 4 years from the treatment of their anaplastic astrocytoma with hyperthermia. A filmmaker made 2 moving videoclips dedicated to their lives which deeply touched the audience.

The congress was highly appreciated and as Dr. Brenner said: “It is a perfect meeting in Italian style, with high scientific presentation and level of debate, awards for scientists and patients. A perfect mix that relaunch our society.”