

2007Autumn PaduaMuscleDays: Muscle Recovery&Reconstruction

It is an honour and a pleasure for us to welcome, in this solemn hall of our University, the participants to this Padua meeting on biology, physiology and physiopathology of sarcomeric muscles.

When some years ago we started our collaboration we were aware of the many scientific and technical gaps, but motivated by the hope to provide some clinically relevant information. Fruitful informal discussion produced ideas and research programs. We were in full agreement on a couple of points: 1. Clinical research was urgently in need of broader and deeper knowledge on muscle regeneration potentials and constrains; 2. Biological approaches and bioengineering constructs were also needed to attain muscle reconstruction. During the following years, much important scientific information had been provided by the international community. In the last years the stem cell field, the development of promising bioengineered materials, the explosion of molecular genetics and of the genetic engineering seemed to promise that our goals could be at hands. The concepts of Regenerative Medicine and of the Guided Healing extended to the surgical approaches. All together, this advancement is changing minds and practices on the healing process and how to redirect it from the natural evolution of scarring toward the more useful process of regeneration. To be part of this culture has been very stimulating and effective in the programming, execution and critical evaluation of our research activities and results. Surely we did our best with enthusiasm and passion. Produced our work relevant fruits? We couldn't and we wouldn't evaluate it alone. As usual, the list of the open queries is much longer than the list of accepted answers. The "muscle problem" needs a lot more research and even more discussions. The 2007PaduaMuscleDays provide a timely and relevant forum, and hopefully will continue in the next years.

This year, the theme of the meeting is "Muscle Recovery and Reconstruction", a topic which is of great interest from a theoretical as well as from an applied point of view. Indeed, the research in this field studies and exploits the factors sustaining muscle plasticity and adaptability, with the aim to maintain and ameliorate both structure and properties of muscles, or even to fit them to function as a support for cardiac activity. In the panel session scheduled to be presented this morning, the topic of muscle plasticity is dealt with using a classical approach, i.e. with chronic electrical stimulation of denervated muscle. The literature in this field is enormous, and it will be most interesting to hear which new facets have been highlighted. This afternoon and in tomorrow's sessions, studies will be presented on the role of myogenesis starting from the stem cells in muscle plasticity, a fascinating and quickly developing field of investigation. Part of presented studies are concerning the possible application of experimental data to functional rehabilitation and to cardiomyoplasty.

All the studies which will be presented promise to be very interesting. We would like to thank all the distinguished colleagues who have accepted to participate to the meeting, and wish all of them a nice stay in Padua.

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