The congress of the Italian Society of Andrology and Medical Sexology (SIAMS) took place in Modena, Italy on November 4-6, 2010. The congress hosted an outstanding International guest, Prof. Anders Juul from Copenhagen, who held a plenary lecture on “Klinefelter syndrome in pediatric age: the Copenhagen experience”.

Overall the congress was well attended with 260 registrations. We received 115 abstracts, 20 of which selected as oral presentation and 95 accepted as poster. The congress was very well covered by the Italian media by several newspapers and local TV and with about 12.000.000 web contacts.

The two poster prizes sponsored by ISA were assigned by a committee including Prof. Emmanuele A.Jannini, SIAMS Scientific Board, Chairman, and Prof. Csilla Krausz, ISA officer.

The following scientists were awarded the ISA prize: Dr. Muratori from the Dept. of Clinical Physiopathology, Sexual Medicine and Andrology Unit, of the University of Florence, Florence, Italy, presented the poster INVESTIGATION ON THE ORIGIN OF DNA FRAGMENTATION IN HUMAN SPERM. The author, from the Prof. Baldi’s laboratory, deals with the occurrence of apoptosis markers, of oxidative DNA damage and of chromatin immaturity in twosperm populations to elucidate the mechanism underlying sperm DNA fragmentation. The poster has been well presented and results have been considered scientifically sound. Dr. Crescioli, from the laboratori of Prof. Di Luigi of the Department of Health Sciences, University of Rome Foro Italico, Rome, Italy presented an interesting an well designed poster on the EFFECT OF TADALAFIL ONTO HUMAN SKELETAL MUSCLE CELL METABOLISM, which has been judged excellent (at the end of the report the abstracts are listed).

We are grateful to the International Society of Andrology for this important support to two young Italian researchers.
EFFECT OF TADALAFIL ONTO HUMAN SKELETAL MUSCLE CELL METABOLISM
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Introduction: Phosphodiesterase type 5 (PDE5) inhibitor Tadalafil (Tad) intake decreased the time to peak power and increased blood lactate value in well-trained men, with no influence on aerobic/anaerobic performance indices. Explanations for this effect include faster utilisation of anaerobic alactic metabolism or increased glucose oxidation and lactate release. We aimed to investigate whether Tad 0.5 μM (Cmax corresponding to 10 mg oral Tad) affects metabolism in human skeletal muscle cells (Hfsmc).

Materials and Methods: We evaluated citrate synthase (CS), succinate dehydrogenase (SDH), both Kreb’s cycle enzymes, and Lactate (Lac) production by ELISA; activation or gene expression of mitogen activated protein kinase (MAPK), protein kinase B (PKB/AKT), piruvate kinase (PK)-M2, known to mediate metabolic or mitogenic response, by Western blot or qRT-PCR, respectively. Cell proliferation has been evaluated by cell count.

Results: In Hfsmc Tad significantly increased CS activity but not SDH activity starting from 1h treatment and modulated MAPK and AKT phosphorylation level. No significant lactate accumulation has been observed within 24h; cell proliferation significantly increased after 24h; PK-M2 expression was unchanged.

Conclusions: The simultaneous increase in CS activity with MAPK and AKT signalling involvement, without changes in SDH, suggests that Tad might induce human skeletal muscle cells to shift towards metabolic pathway different from oxidative phosphorylation, which is, indeed, unaffected. The lack of lactate accumulation, known to be associated with aerobic or anaerobic glycolysis activation, needs to be further explored. Likely, citrate shunt towards fatty acid biosynthesis, following CS activity increase, might occur and, in part, explain the anabolic effect induced by Tad in Hfsmc.

INVESTIGATION ON THE ORIGIN OF DNA FRAGMENTATION IN HUMAN SPERM
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Introduction. Three main hypotheses have been developed to explain the occurrence of sperm DNA fragmentation (DF). These hypotheses propose that apoptosis, oxidative stress and defects in sperm maturation may be the mechanisms causing sperm DNA fragmentation. It has recently reported the occurrence in human semen of two sperm populations (PIbr and PIdim populations) that stain differently with propidium iodide (PI) and that show a different extent of DF. The present study investigated the occurrence of apoptosis markers, of oxidative DNA damage and of chromatin immaturity in the two sperm populations to elucidate the mechanism underlying sperm DF.

Methods. Samples were collected from sub/infertile subjects. By flow cytometry, in PI-stained semen samples, FAS receptor (FASr), 8hydroxydeoxyguanosine (8OHdG), Caspase activity (CA) and viability were investigated. DF was detected by TUNEL assay. The state of chromatin maturity was investigating by aniline blue staining and light microscopy, after separating the two populations by cell sorter FACS Aria. Since PIdim population is entirely formed by fragmented sperm, all the investigated markers could be associated to sperm DF. On the contrary, in PI brighter population, both fragmented and not fragmented sperm occur. Hence, after staining with PI, we studied the association between DF and both apoptotic and oxidative signs in PIbr sperm.

Results. All PIdim sperm are dead, whereas only a variable fraction (49.3±10.8%) of PIbr sperm resulted dead (n=6). In PIbr and PIdim sperm the expression of apoptotic markers was respectively: FASr: 14.2±5.4% and 9.6±5.3% (n=6); CA: 62.6±15.0 and 73.0±14.2 (n=12). Occurrence of 8OHdG was found only in PIbr sperm (18.04±12.9, n=32). The percentage of cells with chromatin immaturity was 31.0±9.0% and 34.4±12.8% (n=4), respectively in PIbr and PIdim population. In PIbr sperm, we found that all DNA fragmented sperm showed caspase activity, whereas no fragmented sperm expressed 8OHdG.

Conclusion. Although we found an association between DF and signs of both chromatin immaturity, oxidative stress and apoptosis, the latter seems to be the main cause of DF in both sperm populations.