Riunione dei Giovani Biochimici dell'Area Milanese
Gargnano 25-27 Giugno 2017

Programma

Domenica 25 Giugno 2017

17.00 Arrivo a Gargnano, registrazione e assegnazione camera

18.15 - 18.30 Saluto di benvenuto e apertura dei lavori (Massimo Aureli, Paola Corsetto, Nico Mitro e Alessio Scarafoni)

18.30 **Lettura di Apertura della Riunione**
Moderatore: **Emilio Reyneri**
"Which occupational outcomes for youth in Italy?"

19.30 Aperitivo di benvenuto

20.00 Cena

Lunedì 26 Giugno 2017

07.45 - 08.45 Colazione

Sessione 1: **Biologia Computazionale di sistema**
Moderatore: **Sara Grassi e Francesco Bonì**

8.45 - 9.15 **Ivano Eberini**
Computational biochemistry: a link between base and applied research

09.15 - 09.35 **Alessio Gamba**
Proteins and diseases: relation between protein complexes and locus heterogeneity

09.35 - 09.55 **Michela Bollati**
Compound ML disrupt Rotavirus particles

09.55 - 10.15 **Valentina Nardone**
Transcription factors as target in cancer therapy: exploring the druggability of NF-Y

10.15 - 10.45 Coffee break

Sessione 2: **Proteine – prima parte**
Moderatore: **Elisa Maffioli e Francesca Re**

10.45 - 11.15 **Marco Nardini**
NF-Why? Structural studies on transcription factors

11.15 - 11.35 **Matteo Miceli**
The endocannabinoid system: novel photochemical assays for human monoacylglycerol lipase (MAGL)

11.35 - 11.55 **Jessica Capraro**
Multifunctionality of plant proteins

11.55-12.15 **Paolo Swuec**
Introducing a Collaborative Research Centre for Cryo-Electron Microscopy in Milan (C-EMi)

12.15 - 13.15 Breve presentazione e discussione poster

13.15 - 14.30 Pranzo a buffet e assegnazione premio SIB ai cinque migliori poster

Sessione 3: **Differenziamento e trasformazione neoplastica**
Moderatore: **Maura Samarani e Matteo Audano**

14.30 – 15.00 **Gioacchino Natoli**
Transcriptional mechanisms in pancreatic and hepatocellular carcinoma

15.00 - 15.20 **Valeria Malacarne**
Diacylglycerol kinase alpha regulates met and β1-integrin abundance and contributes to tumorigenicity and invasiveness of glioblastoma stem cells

15.20 - 15.40 **Raffaella Longo**
Ablation of Hdac3 in white fat triggers a futile cycle of fatty acid β-oxidation and de novo lipogenesis

15.40 - 16.00 **Jessica Rizzo**
Evaluation of aspirin responsiveness in healthy subjects and essential thrombocythemia patients

16.00 - 16.30 Coffee break

16.30 -17.15 **Lettura Magistrale SIB – Federico Bussolino**
New perspective in vascular medicine: the view of the molecular sciences

Sessione 4: **Invecchiamento e patologie degenerative**
Moderatore: **Domitilla Schiumarini e Roberto Spezzano**

17.15 - 17.35 **Aida Zulueta**
Lung mesenchymal stem cells-derived extracellular vesicles as anti-inflammatory cell-free therapy in cystic fibrosis

17.35 - 17.55 **Elia Angelino**
Unacylated ghrelin enhances satellite cell function and relieves the dystrophic phenotype in Duchenne muscular dystrophy mdx model

17.55 - 18.15 **Linda Turnu**
An untargeted metabolomics approach to identify new pathways involved in aspirin effects

18.30 - 19.30 **Tavola rotonda: Public Engagement and Dissemination**
Mattia Crivellini

20.00 Cena sociale ed intrattenimento

Martedi 27 Giugno 2017

07.45 - 08.45 Colazione

Sessione 5: **Membrane**
Moderatore: **Susanna Fiorelli e Michele Ferrara**

8.45 - 09.15 **Alessandro Prinetti**
Lipid-driven membrane organization and signaling in neuronal differentiation and myelination

09.15 - 09.35 **Fabiola Bonezzi**
Myriocin as post-conditioning therapeutic in myocardial ischemia/reperfusion damage: regulation of sphingolipid metabolism for the recovery from infarction

09.35 - 09.55 **Paolo La Rocca**
Unsaturated sialic acid derivatives as promising sialidase inhibitors: synthesis and biological activity evaluation

09:55 - 10.15 **Elena Chiricozzi**
The neurotrophic properties of GM1 oligosaccharide: a new promising story

Sessione 6: **Proteine – seconda parte**
Moderatore: **Margherita Maggioni e Giuseppe Matteo Campisi**

10.15 - 10.45 **Alberto Passi**
Yin and Yang of the hyaluronan synthase 2

10.45 - 11.05 **Benedetta Guidi**
Solubility improvement of a new ω-transaminase from the halotolerant marine bacterium Virgibacillus sp.

11.05 - 11.25 **Marco Piccoli**
NEU3 sialidase role in activating HIF-1α in response to chronic hypoxia in cyanotic congenital heart patients

11.25 - 11.45 **Benedetta Maria Sala**
Insights in structural determinants of β2-Microglobulin stability

11.45 Coffee break di saluto e assegnazione premio SIB alle cinque migliori presentazioni orali

Evaluation of aspirin responsiveness in healthy subjects and essential thrombocythemia patients

Jessica Rizzo[1], Eti Femia[2], Rita Clara Paroni[1], Marco Cattaneo[2,3]

[1] *Laboratorio di Biochimica Clinica e Spettrometria di Massa, Dipartimento di Scienze della Salute, Università degli Studi di Milano, Via A. di Rudinì 8, 20142, Milano. Tel: 02/50323274 e-mail: jessica.rizzo@unimi.it*
[2] *Laboratorio di Ematologia e trombosi, Dipartimento di Scienze della Salute, Università degli Studi di Milano, Via A. di Rudinì 8, 20142, Milano.*
[3] *Medicina III, ASST Santi Paolo e Carlo, Milano.*

Introduction. Essential thrombocythemia (ET) is a myeloproliferative neoplasm characterized by an increased number of platelets in the circulating blood, which is associated with an increased risk for both bleeding and thrombotic complications (1). Low-dose acetylsalicylic acid (ASA, 75-100 mg/d), which inhibits the platelet thromboxane A_2 (TxA_2) biosynthesis, is used for preventing thrombotic complications in ET patients at risk. The pharmacodynamics (PD) effects of ASA are blunted in some ET patients (ET-Non responders, ET-NR) (2). Aim of this study was to identify the causes of poor responsiveness to Aspirin in ET-NR.

Methods. ET responders (ET-R, n=10), ET-NR (n=9) and healthy controls (n=11) were enrolled in the study. Using ID-LC-MS-MS for determination of ASA and salicylic acid (SA) we evaluated: 1) the *in vitro* activity of plasma and blood esterases, that hydrolyze ASA to SA; 2) the *in vivo* kinetics of ASA and SA at different times after the administration of 100 mg ASA (enteric-coated formulation). Serum TxB_2 (stable metabolite of TxA_2) was measured by ELISA at different time points after drug intake. *In vitro* effects of ASA on platelet aggregation (Multiplate) and TxB_2 production (ELISA) induced by collagen in whole blood were measured in ET-NR and healthy controls.

Results. Esterase activity was similar in the three study groups. Pharmacokinetics of ASA was very variable in all subjects: ASA maximum plasma concentration ranged between 500 and 1400 ng/mL 2-6 hours after intake. SA had similar trend. Half of ET-NR did not show ASA absorption within the 8 hours observation period. In these patients serum TxB_2 was persistently high. However, in vitro addition of ASA (100 μM) inhibited TxB_2 production at the same rate as in controls, excluding an impaired pharmacodynamics effect (3).

Conclusions. Excluding enzymatic or pharmacodynamics effects, causes of inadequate response to ASA in ET patients need some more investigations on gastro-intestinal availability.

References

1) Patrono C., Rocca B. and De Stefano V. Platelet activation and inhibition in polycythemia vera and essential thrombocythemia. Blood. 2013;121 (10):1701-1711

2) Cattaneo M. Aspirin and Clopidogrel. Efficacy, Safety, and the Issue of Drug Resistance. Arterioscler Thromb Vasc Biol. 2004; 24:1980-1987.

3) Frelinger AL, Furman MI, Linden MD, Li Y, Fox ML, Barnard MR, Michelson AD. Residual arachidonic acid-induced platelet activation via an adenosine diphosphate-dependent but cyclooxygenase-1- and cyclooxygenase-2-independent pathway: a 700-patient study of aspirin resistance. Circulation. 2006 Jun 27;113(25):2888-96.