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Mechanism of action of roller technique after damage with Notexine in rats.

Carlos Colmena, Adrian Jorda, Sol Guerra-Ojeda, Constanza Aldasoro, Patricia Marchio, M Dolores Mauricio, Martin Aldasoro, Antonio Iradi, Jose M Vila and **Soraya L. Valles**
University of Valencia, Spain

This study aims to elucidate the interplay among neuroinflammation, neuronal death and mitochondrial dysfunction in rats after notexine and roller action added to muscle in rats. Rats from 7 mounts were treated with notexine (a toxin that destroy muscle and neural cells) and/or roller technique. Roller technique is used in humans to recover from muscle damage and destruction of communication between neurons and muscle. Also, we tried to ascertain how the factor above mentioned influences the progression of neurodegeneration from muscle nervous system to the brain. This aim was pursued by evaluating, by immnunohistochemistry and/or Western blotting, the neurochemical changes featuring neurodegeneration in different muscle of the body and brain regions. Specially, we evaluated MAP-2 and amyloid-β as markers of neurodegeneration and cellular dysfunction. Moreover, our results detected increase in pro-inflammatory proteins in notexine group compared to control or roller group with a decrease in pro-inflammatory proteins in notexine + roller group. Furthermore, we detected an increase in PPAR-γ (anti-inflammatory protein) in notexine + roller group compared to notexine group. Finally, using immunohistochemistry we detect changes in muscle structure with affectation in notexine group, with a recovery situation in notexine + roller group in our model of rats. In summary, roller action in muscle after damage may produce benefits, such as increase in anti-inflammatory proteins and reduction of pro-inflammatory proteins, conducted to a higher recovery of both muscle and neurons damages.

Speaker Biography

Carlos Colmena born in Valencia and finished his Degree in 2010 in Physiotherapy Faculty of Valencia, Spain. He has obtained 3 Masters with the title: 1- Attention of Physiotherapy community. 2- Prevention in workers inside physiotherapy. 3- New rolls in Health and Physiotherapy. In 2017 has started his PhD in the Department of Physiology, University of Valencia with Dr. Soraya L. Valles. The title of his PhD will be "Función protectora y de recuperación de la electrolisis percutánea intratisular como técnica fisioterápica en tendón rotuliano de rata".

e: carcarmafisio@gmail.com

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