

PHARMACOGENETICS OF EXTRAPYRAMIDAL SYNDROMES ASSOCIATED WITH COADMINISTRATION OF OPIOIDS AND ANTIDEPRESSANTS

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Opioid analgesics are widely used for the pain relief. More than 0.8% of the global population between 15 and 65 used opioid analgesics, in last years. The currently marketed alkaloid opiates are codeine, hydrocodone, oxycodone, methadone, tramadol, fentanyl, morphine, hydromorphone and oxymorphone. Opioids have a narrow therapeutic index, and can be associated with severe adverse reaction, addiction, dependance, tolerance and fatal overdose. Opioid's adverse effects have been shown to increase the risk of seizures and serotonin syndrome characterized as a triad of neuro-excitatory features; altered mental status (e.g. sedation or agitation), autonomic hyperactivity (e.g. diaphoresis, mydriasis, tachycardia, nausea, urinary retention, diarrhea) and neuromuscular hyperactivity (tremor, myoclonus, hyper-reflexia, pyramidal rigidity). Although the development of extrapyramidal symptoms is under-recognized in clinical practice, with the widespread use of opioid analgesics, increasing numbers of patients with movement disorders following exposure to these drugs have been reported. Chronic pain syndromes are commonly associated with depression and clinicians simultaneously treat both of these conditions prescribing opioids for pain while also administer a selective serotonin reuptake inhibitor (SSRI) for depression. Although there are much efforts has been directed to prevention of misuse, the importance of pharmacokinetic drug-drug interactions related to opioids has received little attention. Drug-drug-interactions-induced serotonin syndrome caused by treatment with oxycodone and SSRI antidepressants is widely known.^{2,3,4} Herein, we report a cases of extrapyramidal syndromes induced by coadministration of antidepressants and opioids, caused by cytochrome 450 polymorphisms and drug-drug interactions.

BIOGRAPHY

Helena Sarac was born in 1968 in Zagreb. She graduated from Medical School in 1992 and attained her PhD from Medical School University of Zagreb in 2013. She was a visiting research scientist at the Mount Sinai Hospital, New York. Since 1999 she had headed the Diagnostic Center Neuron at the Croatian Institute for Brain Research, Medical School University of Zagreb. She is neurologist at the Department of neurology, University Hospital Centre Zagreb, Croatia and scientist at the Centre of Research Excellence for Clinical and Translational Neuroscience. Her research topics are movement disorders, neurodegeneration, and pharmacogenetic of extrapyramidal syndromes. Her significant contribution to the development of science in the neuroimmunology. Dr Sarac has long been interested in how serotonergic system is influenced by autoimmune disorders. She authored multiple scientific publications that have been cited, and has been serving as an editorial board member of reputed Journals and has been serving as an editorial board member of reputed Journals. Dr Sarac has been guest speaker at the international conferences worldwide.

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