

# Novel applications of drugs: should we expect more than anesthesia?

## Editorial

Accumulating data shows effects beyond analgesia and anesthesia for most anesthetic drugs. Owing to the recent advancements in pharmacology, many new-generation anesthetic drugs are now safer than old-generation drugs. The review manuscript entitled: *Effects of Anesthesia & Anesthetic techniques on Cellular Immunity triggered this editorial for this issue of journal of Anesthesia and Critical care*. It is crucial for both clinicians and scientists to obtain more information with regard to new insights about drugs commonly used during anesthesia. In other words, identifying the multimodal effect of such drugs can shed some light on their novel applications. A number of biomedical technology management strategies and an emerging pharmaceutical road map have been set forth to explore novel targets in different areas such as cancer, organ protection, immunity etc. Although some contradictory data in subjects with cancer provide a glimpse of the metastatic situation, they can open a new window in the field of regenerative medicine, repurposing them as novel organ-protective agents. Many recent scientific achievements are dedicated to biomedicine, which is an excellent combination of engineering and medicine. When it comes to science there are no borders. Several drugs approved by the Food and Drug Administration have been used in accordance with their applications. However, further research may reveal the simultaneous application of such drugs in different organs, and with medical devices. If a specific anesthetic or cardiac drug is effective in pathways such as immunity or bacterial pathogenicity, it can be developed and used in the treatment of some other systemic diseases or used as a topical target in medical devices. As another example in patients with transplantation, we may suggest a specific type of drug not just for its anesthetic or hemodynamic effects but also for its different cellular co-effects.

Recently published data shows multimodal effects of many drugs, for instance, the discussion on the role of lipid emulsion as an organ-protective agent rather than simply an agent used for reversing bupivacaine or other drug toxicities. Searching in literature we can find numerous examples with regard to novel application of different therapeutics including but not limited to: Lipids effect on ischemia reperfusion injury, Propofol anti apoptotic and anti inflammatory effects, Anesthetic anti bacterial effects, novel applications of Calcium Channel blockers, etc.<sup>1-14</sup> Considering anesthesia as the pillar of patient care during surgeries and in intensive care units that cover the entire body's physiology and pharmacology, should we expect more from the anesthetic drugs?

## Acknowledgements

None.

## Conflicts of interest

The author declares that there is no conflict of interest.

Volume 8 Issue 2 - 2017

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**Received:** May 19, 2017 | **Published:** May 25, 2017

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