



Is the future of perioperative medicine created by "Cellular and Molecular Medicine"?

During the last two decades, there was a growing approach towards role of perioperative medicine as "the future of anesthesia". Many practical and discipline activities were performed; including change in clinical practice and change in the name of departments to "Department of Anesthesia and Perioperative Medicine" or similar titles. These changes were based on a distinct logic: Anesthesia is not a spot or a brisk interval of care. Instead, it starts from "preoperative anesthesia care", goes to "intraoperative anesthesia care" and leads to "postoperative anesthesia care". This approach adapts more with improved clinical outcome (1-5).

With the growing role of cellular and molecular medicine and the increasing span of its clinical utility, there is growing role for this practice in the perioperative care (6). The current issue of the Journal includes vivid examples showing integration of cellular and molecular medicine in perioperative care.

In this issue, Aghajani et al have described the role of nitric oxide due to high fat diet after myocardial infarction; their study has these main applications for perioperative medicine: in rats, high fat diet leads to overproduction of nitric oxide and oxidative stress, augmenting infarct size (7). These findings could lead us to more strong evidence for increased cardiac risk of obese patients in the perioperative period.

In another study, Tabatabaei et al in a retrospective study have demonstrated the role of magnesium ion in the clinical outcome of traumatic patients during their critical care course; magnesium plays a crucial role in cellular energetics; so, the clinical outcome could be affected due to this ion; as demonstrated in this study (8).

Safari et al, in their Brief Communication, have discussed about anesthetic management of Crouzon syndrome which is the name for a specific syndrome mainly due to a mutation in fibroblast growth factor receptor 2 gene; leading to a specific clinical situation

mandating multidisciplinary management (9).

In patients having hemophilia and/or rare bleeding disorders, there is an increasing emphasis on genetic risk factors leading to development of coagulation abnormalities. Bamedi et al found in their review that among these genetic risk factors, large deletion, nonsense mutation, intron inversion and gene polymorphisms in the immune system are the most important ones (10).

Sezari has reviewed the role of Toll-like receptors in controlling pain in another article published in this issue of the Journal. After discussing many different aspects of Toll like receptors and their wide variants, a number of novel analgesic models are presented in this review which are based on the cellular and molecular basis of Toll like receptor activities and their interactions with different parts of the neural system (11).

Rajaei et al have discussed the role of vitamin D in suppressing premenstrual syndrome pain in a systematic review; in this review, they have focused on those molecular mechanisms of vitamin D which act as analgesic. Based on their search, they have concluded that vitamin D affects inflammatory interactions and neurological mechanisms of chronic pain (12).

The above studies spotlight the increasing role of *cellular and molecular medicine* in perioperative care. More than two decades ago, naming anesthesiologists "perioperative care physicians" seemed odd. Nowadays, anesthesiologist do this task as an inseparable part of their profession. May be some day, not so far, it will look a very usual event to see *cellular and molecular medicine* integrated into perioperative care practice; the same as perioperative care currently performed by anesthesiologists. François Voltaire quoted "It is said that the present is pregnant with the future"; however, Khayyam has quoted "Dead yesterdays and unborn tomorrows, why fret about it, if today be sweet". So, we may choose!

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