Editorial

The Sun Will Be Shining in the Pain Management Sky

"An ounce of prevention is worth a pound of cure"

***Benjamin Franklin**, 1706-1790*

Medicine is highly dependent on both knowledge and expertise. Although treating the underlying ailment and its symptoms have been considered the cornerstone of the clinical approach, curative and permanent approaches like removing the genetic roots has been always a promise. However, the future of medicine may change this inspiration into reality; this paradigm shift is highly affected by different items including but not limited to (1):

- Nanomedicine
- Personalized Medicine
- Digital Health
- Artificial Intelligence (AI)
- Medical robots
- Biosensors
- Gene editing therapy
- Regenerative medicine

There is a growing drive to find solutions that could fundamentally resolve "*mortality and morbidity challenges*". To find this solution, in the future years, we will be possibly able to see our dreams as reality: the daily application of personalized medicine in the clinical care of anesthesiology, pain, and perioperative medicine; once mentioned as "anesthesiomics"(2).

Many aspects of anesthesiology and pain should be targeted for this goal. In some previous studies, the relationship between "A118G single nucleotide polymorphism of the mu-opioid receptor gene (OPRM1)" and pain in humans has been demonstrated (3). Also, some studies demonstrated the relationship between OPRM1 A118G Polymorphisms and postoperative nausea and vomiting (4) or its role in opioid addiction (5). However, in this issue of the *JCMA*, Indra, et al. have demonstrated that "OPRM1 A118G and COMTG158A gene polymorphisms had no significant association with pain sensitivity in Minangkabau ethnic" (6); a finding contrary to some of the previous similar studies. Though this study could not say the final word on this topic, the integral role of ethnicity in personalized medicine should be once more stressed. When discussing pain as a major challenge for human being from the early days of creation, we have to modernize the challenge based on our current experience; we could think about novel items like:

- Developing vaccines for pain
- Screening for pain sensitivity using genome sequencing
- The application of AI in pain management (7)
- Advancing the public health order of precision medicine
- Developing preemptive personalized medicine (PPM) for pain management
- Considering "Targeted Immunotherapy" for pain management with a special focus on the role of each inflammatory cell or cytokine in the "core texture" of pain (8, 9)
- Managing both the clinical and public concerns with opioids; their addiction, tolerance, and cross-tolerance (10)
- Thinking about some bizarre or funny fantasies like the CRISPR-CAS9 technique for "cutting and repairing the unwanted genes in chronic pain" (11, 12)
- Using microfluidic tools to test novel analgesic drugs (13, 14)

So, it would be possible that in the next 2-3 decades, the application of novel ideas -all over the world- would lead to treating pain much more effectively than now; especially when considering the role of novel cellular and molecular techniques!

Benjamin Franklin told the Fire-Fighters "An ounce of prevention is worth a pound of cure"; this time the Fire-Fighters are going to "***extinguish pain***" using novel cellular and molecular methods.

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