

Artificial Intelligence-Assisted Care in Medicine: Friend or Foe?



Technical innovation has always been a driver for medical breakthroughs in the field of cardiology. These include the Laennec's stethoscope, the electro- and echocardiogram, percutaneous coronary interventions, transcatheter structural heart interventions, open heart surgery, ventricular assist, and implantable electronic devices.

However, while we see many examples of such technologies, many have not translated to routine clinical care so far. Artificial Intelligence is one such example. Although it is important to note that AI is not a specific technology per se and it does not have any artificial features. It is actually machine intelligence (MI) and so far, MI has seen more disappointments than success. The expectations associated with AI/MI seem to over-inflated as far as cardiology is concerned.

Panth et al. state that "at present, the algorithms that feature prominently in the research literature are in fact not, for the most part, executable at the frontlines of clinical practice." There could be multiple reasons for this including a hospital's infrastructure and regulations. Hospitals are still in the process of transitioning to functioning as digitalised units, and data harmonisation is still a challenge for most hospitals. Also, with the introduction of the new EU Medical Device Regulation (MDR) in 2017, which is to become effective in 2020, several software are now considered medical products and have time-consuming, and costly requirements for certification.

There is no doubt that machine intelligence is here to stay, but its application still poses a challenge for most hospitals. These can be overcome by using statistical models and by combining knowledge-based approaches with deep learning. Theoretically speaking, MI has the potential to disrupt healthcare systems and clinical care. Today, computers can process large quantities of data and structured representation of knowledge in just a short time without loss of information. Both digitisation and desire for personalised medicine are likely to establish new clinical domains that will focus on computer-assisted medicine. It's just that both hospital management and clinicians have to keep up with this rapidly developing technology.

Source: [European Heart Journal](#)
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