#EA20: Is Technology the Answer for Perioperative Patient Safety?


One of the most enjoyable sessions at Euroanaesthesia 2020 this year was the pro-con debate. The debate this time was on the topic: is technology the final answer for perioperative patient safety?

Two experts, Dr. Daniel Arnal from the Hospital Universitario Fundación Alcorcón, Madrid, Spain, delivered the pro argument, while Prof. William Harrop-Griffiths from Imperial College, London, UK, delivered the con argument.

While defending the use of technology for perioperative patient safety, Dr. Daniel Arnal started his argument by saying that for a long time now, the human part of the patient safety equation hasn't been really reliable. This is despite the fact that significant effort has been made to establish an improved patient safety culture, create checklists, protocols, incident reporting, crisis resource management and human factors, and yet, errors still exist. Perioperative and anaesthesia-related mortality has declined but, how much of it has been due to the use of technology, Dr. Arnal argued.

He gave the example of blood pressure monitoring and how there was a time when doctors had to monitor blood pressure by palpating the pulse and oxygenation by checking how dark the blood seemed. Today, monitoring has become much more advanced and effective.
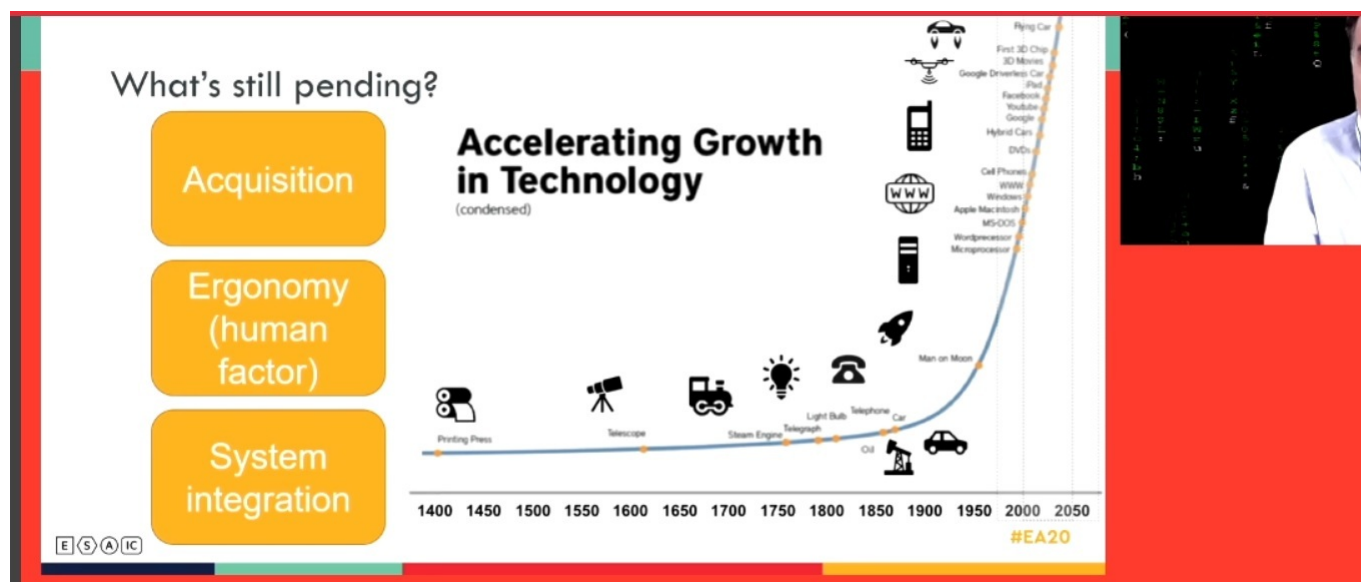
Dr. Arnal concluded that education sessions, memos, checklists and protocols are nothing but quick fixes, but engineering solutions are definitive. Technology offers many possibilities, and while it may not be the final solution for perioperative safety YET, it will be the definitive solution in the years to come.

In response, Prof. Harrop-Griffiths argued that technology is not the final answer for perioperative patient safety. While technology can support the human delivery of care and can also reduce the chances of errors, humans are still necessary for the delivery of care.

Prof. Harrop-Griffiths divided technology in anaesthesia into six groups:

- Technology that does what it is meant to do regardless of any attempts by humans to bypass it.
- Technology that is good but can be used badly by humans.
- Technology that is good but may have adverse consequences.
- Technology that is quite cool, but we don't really understand it.
- Technology that claims to provide the complete solution when, in fact, it only provides half or less.
- Technology that does more harm than good.

Summary of argument

- The human interface between anaesthetist and patient will continue to be necessary for some time
- While humans are still necessary for the delivery of patient care, there exists the potential for human error
- The humans have to be well trained, well rewarded, well rested and in good condition
- Technology must be designed to support the delivery of care
- Technology can minimise human error but cannot prevent it

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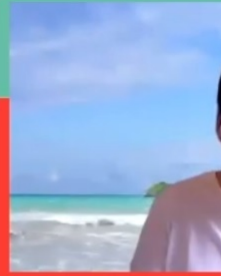
According to Prof. Harrop-Griffiths, it takes some time to discover in which group a particular technology actually lies. He accepts the fact that the future of technology is very bright and that there are exciting developments in anaesthesia delivery systems, clinical decision support and artificial intelligence (AI). However, we still have much to learn about issues that actually affect patient safety. If we don't address these issues, technology has very little chance of becoming the answer to perioperative patient safety, he concluded.

Source: Live Debate #EA20

Image Credit: #EA20 Live Sessions

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