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Post-operative nausea and vomiting: is there a genetic link?

For a third of Australians and New Zealanders undergoing surgery, the nausea and vomiting after a general anaesthetic is often worse than any post-surgical pain they may experience.

There are many factors that increase the likelihood of suffering from post-operative nausea and vomiting: females are three times as likely to suffer than males; non-smokers and people who experience motion sickness are twice as likely to experience it; and anyone who has been sick after an anaesthetic once is most likely to experience it again.

However, few studies have been done to see if there is also a genetic link and if a pre-admission genetic test could be conducted to screen patients' risk factors for succumbing to nausea and vomiting.

Professor Andrew Somogyi from the University of Adelaide in South Australia will propose a comprehensive Australia-wide risk factor and genetic study be undertaken when speaking at an Australian and New Zealand College of Anaesthetists conference of more than 1300 anaesthetists, pain medicine specialists and trainees in Perth tomorrow.

"Patients will tell you the nausea and vomiting is the worst post-surgical experience they have had, and those going in for more surgery will fear being sick more than the operation itself," he says. "They can tolerate the pain, because we have analgesics, but it's the nausea and vomiting that is the real downside of the surgery. And even the anti-nausea medications they may be given often do not work as well as expected."

In a session on genetics at the conference, other speakers include **Professor Jamie Sleigh, from Waikato Hospital, New Zealand**, who is looking at whether there is a possible genetic link to experiencing awareness during anaesthesia, and **Professor Ruth Landau, from the University of Washington Medical Center in the United States**, who is looking at how genetics can affect pain perception and people's responses to drugs.

Do newborns need anaesthesia for surgery?

Royal Children's Hospital, Melbourne, anaesthetist and researcher, Associate Professor Andrew Davidson will outline to the conference the latest research on the effects of anaesthesia on newborns and query whether they need to be given an anaesthetic agent to make them unconscious.

Anaesthesia generally ensures a lack of movement, loss of consciousness, amnesia and pain relief for patients.

With newborns having no explicit memory, the question of whether they need to be unconscious will be raised by Associate Professor Davidson, especially if the anaesthetic agent that causes unconsciousness could cause harmful effects to the brains of young children.

“We do know that newborns need effective pain relief and ways to reduce their stress, but whether they also need to be unconscious is debatable,” Associate Professor Davidson says.

“With more evidence about the effects of anaesthesia on the developing brain in animals, parents are advised to avoid unnecessary, elective surgery for young children up to the age of three.”

He will also speak at the conference about providing parents with adequate pain relief and information for children when they have been discharged from hospital after day surgery.

Other highlights of the day include:

- **Associate Professor Brendan Silbert from St Vincent’s Hospital, Melbourne**, will discuss the reasons why anaesthesia and surgery in elderly people are sometimes followed by memory loss and difficulties in thinking. Recent information suggests that this phenomenon affects about 20 per cent of the elderly. Research is looking at whether this is due to anaesthesia, surgery or patient susceptibility. Recent advances in our understanding of Alzheimer’s disease may provide a clue to the exact cause and the ability to identify people who are susceptible. In particular, the sampling and analysis of spinal fluid may hold the key to unraveling this problem.
- **World-renowned Danish surgeon Professor Henrik Kehlet** in the conference’s plenary session will discuss how to limit persistent pain after surgery. Between 10 and 50 per cent of patients experience persistent pain after surgery, which usually lasts between three and six months. He maintains this pain is either the result of ongoing inflammation, nerve damage from surgery, or genetics. To limit pain, he suggests adopting surgical techniques that avoid nerve damage, aggressive pain relief therapy and studying genetic factors that could predispose some people to develop chronic pain.

For further information, or to attend the meetings or interview speakers, please contact ANZCA Media Manager, Meaghan Shaw, on +61 408 259 369 or email mshaw@anzca.edu.au. Please note, Perth is two hours behind AEST and four behind NZST. Follow us on Twitter [@ANZCAnews](https://twitter.com/ANZCAnews).