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Genetics could be the key to anaesthetic awareness

Researchers are seeking people who have been aware during anaesthesia to investigate whether there could be a genetic link to this uncommon experience.

Awareness is a rare but sometimes distressing complication of general anaesthesia, occurring in about one in 1000 operations.

Patients who experience awareness may recall sounds or conversations, or report feeling the operation, during a time when they were supposed to be unconscious. They may feel afraid and helpless during the episode, and even suffer from psychological problems as a result.

While the most common cause of awareness is technical failure leading to an inadequate level of general anaesthesia, in about 10 per cent of cases of awareness during surgery, patients have had what would usually be regarded as adequate levels of anaesthetic drugs.

There are also patients who have experienced awareness more than once, or who have a family member who has experienced awareness.

This has led researchers from Australia and New Zealand to suggest a patient's genetic make-up could make them more vulnerable to anaesthetic awareness.

Researchers from the Royal Melbourne Hospital, the Royal Children's Hospital and Murdoch Childrens Research Institute in Melbourne, and the Waikato Hospital, New Zealand, are looking to interview 100 patients who have experienced awareness during apparently adequate general anaesthesia, and take a saliva sample, with the aim to identify specific areas of the genome that are different in patients who experience awareness.

"Exploration of the genetics of awareness may not only determine why some patients experience awareness, but may also lead to new insights into the genetics of memory formation and consciousness," ANZCA President and Royal Melbourne Hospital anaesthetist, Professor Kate Leslie, said.

"There is also the possibility of developing clinical screening for awareness, although its rarity may make this impractical."

Royal Children's Hospital anaesthetist, Associate Professor Andrew Davidson, said while awareness during surgery could be distressing, he hoped patients who had experienced this complication would come forward to help others avoid such an event.

“We believe that genetic factors may render some patients more vulnerable to anaesthetic errors than others, and may even expose patients to awareness where no apparent error has been made,” he said.

“We need to determine why this happens.”

Participants in the study need to be aged 18 or older, and have experienced anaesthetic awareness during the past 10 years. They also need to have been aged 13 or older at the time of the awareness episode to be included.

- **For further information about the study, or to interview any of the researchers, please contact ANZCA Media Manager, Meaghan Shaw, on +61 3 8517 5303, +61 408 259 369 or email mshaw@anzca.edu.au.**