Anesthesiologists as Genetic Counselors?

To the Editor:

We wish to comment on the editorial by Drs. Lee and Raja “Should Anesthesiologists be Equipped as Genetic Counselors”?1

Although Drs. Lee and Raja highlight pharmacogenetics and molecular genetic factors that might influence patients’ response to pain medication, the omission of a discussion of certain pharmacogenetic disorders specifically related to anesthesiology is baffling and a significant oversight. In particular, there are two classic pharmacogenetic disorders of special interest to anesthesiologists: the response to succinylcholine due to mutations in the gene that elaborates pseudocholinesterase (butyrylcholinesterase), and malignant hyperthermia syndrome.

Anesthesiologists who are expert in understanding malignant hyperthermia already use molecular genetic testing to guide patients in the selection of anesthetics and to determine the risk of developing malignant hyperthermia. A sophisticated knowledge of the significance of more than 200 mutations associated with the ryanodine receptor gene2 is necessary for advising patients with malignant hyperthermia already use molecular genetic testing for genetic predispositions. We agree that all specialists, including anesthesiologists, should develop a working relationship with centers that have medical genetics divisions or departments that include board-certified genetic counselors to provide the necessary genetic counseling.

It is entirely appropriate for anesthesiologists to focus research activities on the molecular genetic basis of drug response and take an active interest in education concerning molecular genetic research. This is a far cry from being “equipped” as a genetic counselor.

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References


In Reply:

We thank Rosenberg et al. for their interest in our editorial1 on the potential role that anesthesiologists may have to play as genetic counselors in light of developments in the direct-to-consumer genetic testing market. We also appreciate these researchers noting the importance of malignant hyperthermia when discussing genetics in anesthesiology. The focus of the editorial was on pain genes; it was not meant to be comprehensive.

It is undeniable that most anesthesiologists have little to no formal training in genetics and genetic counseling; therefore, it would be to the patient’s benefit to seek consultation with a genetic counselor for answers concerning his or her genetic predispositions. We agree that all specialists, including anesthesiologists, should develop a working relationship with a medical genetics department to respond appropriately to patients’ concerns based on their genetic profile and to provide optimal care to their patients.

Unfortunately, such communication between anesthesiologists and genetic counselors is not the norm. For example, although patients with a suspected malignant hyperthermia crisis or a suspected susceptibility to malignant hyperthermia are advised to undergo in vitro contracture testing and gen...
The Discovery of Chloroform: Has David Waldie’s Role Been Exaggerated?

To the Editor:

It is now commonly accepted that James Y. Simpson, (1817–1870), professor and chairman of the Department of Midwifery at Edinburgh University (Scotland), tried chloroform after it was suggested to him in October 1847 by David Waldie, L.R.C.S. (Edinburgh; 1813–1889), pharmacist in Liverpool. Likewise, it is commonly accepted that Simpson was ungenerous in acknowledging his friend’s contribution to the discovery.

Indeed, a brief footnote in Simpson’s first account of the discovery1 stated, “Waldie had mentioned the perchloride of formyle (chloroform) among others as worthy of a trial.” In the same footnote, Simpson warmly thanked his assistants, J. Matthews Duncan, F.R.C.S. (1826–1890), and George Keith, as well as William Gregory (1803–1858), who had suggested the chloride of hydrocarbon (Dutch liquid) and given him samples of various compounds to try. Gregory was chairman of the Chemistry Department at Edinburgh University. Duncan and Keith had studied midwifery under Simpson.

However, a review of the facts surrounding the discovery of chloroform leads us to question the importance of Waldie’s contribution and the extent of Simpson’s ingratitude. The reminiscences of Duncan and James Miller (1812–1854), professor of surgery at Edinburgh University, never mention Waldie. In addition, throughout the years after the discovery, Simpson repeatedly thanked Waldie.

In early 1848, Miller, who was a professor of surgery at Edinburgh University and neighbor of Simpson, described the evening of November 4, 1847, as it was reported to him by participants.2 Although Simpson initially discarded the chloroform as “too heavy,” he later changed his mind and retrieved it from the wastebasket. Miller does not mention Waldie.

Duncan, who was then a lodger and one of Simpson’s assistants (later becoming a renowned obstetrician in Edinburgh then in London), gave a different and more detailed version of the events in a March 6, 1870, letter to Robert Christison (1797–1880), a professor of toxicology and medical jurisprudence at Edinburgh University.2 A copy of that letter was sent by Duncan’s widow to the British Medical Journal in 1896.4 The letter indicates that, a few days before the discovery, Simpson and Duncan visited Gregory, who gave them samples of various compounds. Duncan inhaled several of them on the morning of November 4, 1847. He found chloroform to be “the most interesting of them” and brought it to Simpson’s dining room that evening. He reported that he had forgotten the name given to the compound, but that “it certainly was not chloriform.” It probably was perchloride of formyl.

Duncan’s sister Isabella, in two short posthumous biographies of her brother,5–7 added that he had been unconscious for 15 min after he had inhaled chloroform. It was this response that prompted him to suggest it to Simpson. She indicated that her brother had been hurt when Simpson ignored his important role in the discovery although he had never complained. Duncan, too, never mentioned Waldie.

Thus, both Miller and Duncan ignored Waldie.

In a lecture given to the Liverpool Literary and Philosophical Society on November 29, 1847,8 Waldie complained of Simpson’s lack of acknowledgment. Possibly encouraged by family and friends, he was more emphatic in a pamphlet published in 1870 after Simpson’s death.9 But Waldie was unfair to his late friend who had profusely thanked him in a letter accompanying his account of the discovery1 he had sent him in 1847.10 Simpson also frequently mentioned Waldie’s name in his lectures to medical students.9

In a letter to his Liverpool colleague John Abraham (1813–1881), pharmacist at Clay & Abraham Co., Waldie admitted that Simpson’s acknowledgment “had been hand-some.”11 Waldie was thus amply thanked for a mere suggestion he had offered in October 1847.

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References


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References

1. Lee FH, Raja SN: Should anesthesiologists be equipped as genetic counselors? Anesthesiology 2010; 113:507–9


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