Johan Willem Mouton

Johan Mouton was a world leader in pharmacokinetics and pharmacodynamics and antimicrobial resistance. He died on July 9, 2019.

Erasmus MC

Johan Mouton liked to keep moving. The start of the week might find him in Stockholm, giving a lecture. On Tuesday, back to Rotterdam, where he ran a research unit at the Department of Medical Microbiology and Infectious Diseases at Erasmus University Medical Centre. You knew he was there from his laugh, spilling out of his office and reverberating down the corridor. On Wednesday, maybe another Dutch city to give another lecture. Perhaps a meeting in Zurich on Thursday. Erasmus MC again on Friday. And on Saturday, working from the home he shared with his wife Anouk. Mouton even skied like a man in a hurry, seemingly flying down the slopes, though there was nothing wrong with his technique.

But Mouton also knew when to take his time. Some things ought not to be rushed. Like when he was bird-watching, settling down to wait until the moment was exactly right to capture the creature on film, or when he was blending tea with Anouk, or wine-tasting. All those hours spent playing the piano helped him to understand tempo. Colleagues and students who came to Mouton with their questions could expect a considered response. They would bring him their research proposals and grant applications and he would examine the documents with forensic efficiency, pointing out weaknesses and suggesting improvements. "Johan was available for everyone", said Annelies Verbon, chair of Mouton's department at Erasmus MC.

Born on Nov 3, 1956, Mouton obtained his medical degree from the University of Utrecht in 1988. In 1993, he completed a PhD in pharmacokinetics and pharmacodynamics (PK/PD), a field in which he would become one of the world's leading experts. Like his father, Mouton trained as a microbiologist. He spent 13 years as a consultant at Canisius Wilhelmina Hospital in Nijmegen, before returning to Erasmus, where he had spent 4 years in the mid-1990s.

In a 2013 editorial in "Antimicrobial Resistance and Infection Control", Mouton elegantly outlined the urgency of the resistance crisis. "Micro-organisms are not restricted by borders, do not care whether they are in the hospital or outside. They thrive wherever they have an opportunity to do so and we, as humans, have created that environment for resistant bacteria. This needs to stop", he wrote. His own research was focused on applying the principles of PK/PD to optimise antimicrobial therapy and prevent the emergence of resistance.

"The main challenge…is how to influence the process of natural selection, in other words how to minimize exposure of micro-organisms to antimicrobials without compromising their efficacy or restricting its use to those patients that need them", noted Mouton in the editorial. "Or from a different perspective, optimizing the use of antimicrobials that we have and thereby preserving antibiotics for the future….What is the optimal duration of therapy? What is the optimal dosing regimen and antimicrobial choice? These are all questions that clearly need to be answered and will require a huge effort". The piece concluded with a flourish. "Action now, now, now", advised Mouton. "It might not be too late." Plenty of energy and enthusiasm there, but the judicious use of the word "might" hinted at the writer's clarity and realism.

The dozen or so PhD students Mouton supervised were from all over the world. He was a firm believer in the collaborative side of science. He co-founded the European Committee on Antimicrobial Susceptibility Testing (EUCAST) and the ESCMID PK/PD of Anti-Infectives Study Group (EPASG), which aims "to encourage the study and advancement of the science of pharmacodynamics, pharmacokinetics and the dosing of anti-infectives [and] to contribute to studies about prevention of development of resistance". Mouton edited all kinds of publications, including the Journal of Antimicrobial Chemotherapy. From 2002 to 2004, Mouton served as president of the International Society of Anti-Infective Pharmacology. He produced paper after paper, publishing well over 150, and was involved in a dizzying range of consortia and agencies. But whatever he was doing, wherever he was, he remained accessible to those who needed his advice. He is survived by Anouk, his son Jaap, and both his parents.

Talha Burki