BOOK REVIEW

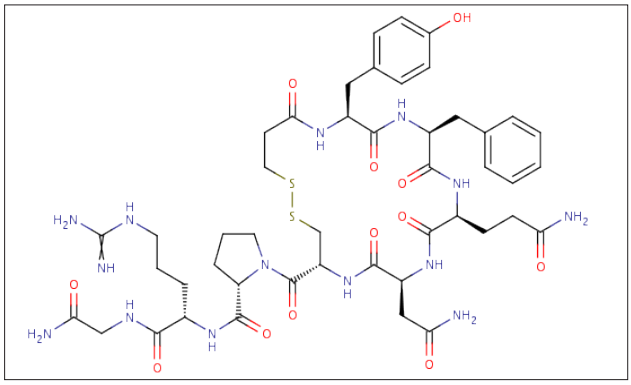
Jens Peter NØRGAARD, and Alan S HARRIS. A passion for peptides. Desmopressin: the history, the science, the people and the company behind it. Ferring Pharmaceuticals, 2011. ISBN 978-87-994103-0-9

This is a gem of a book, with original photographs, ample anecdotes and warm tribute to the many colourful, courageous and unconventional people behind the development of Desmopressin, today cited as among the 15 most important medicines in the world. Above all, is it a truly human account of the patients whose lives were changed, beginning with the rare *diabetes insipidus* (DI), to enuresis and polyuria to blood coagulation disorders, blood donations, cardiac surgery and ending with promising research on its uses in cognitive and memory disorders.

Chapter 1. opens with the humble origins of Ferring Pharmaceuticals, as two rented rooms in Malmo, Sweden where founder, Frederick Paulsen embarked on the untravelled road of endocrinology and pituitary peptide hormones in particular. Nobody was studying them. We go to an abbattoir in Norway where a woman with DI was taking from 2 to 7 fresh pituitaries from the cattle each evening to reduce excess urination, a reminder that the only evidence at the time for DI was anecdotal.

Chapter 2. From whalers to housewives and drilling down to the pituitary. From ancient times, whales have been hunted for their oil. The observation that the pituitaries of whales could be markedly swollen following a stressful hunt, spread to the Island of Fohr from where Paulsen' s folk came and passed into the common language as "braanjknoop baarst". There was high commercial demand at the time, for adrenocorticotropic hormone and Ferring Pharmaceuticals, placed near the big Danish and Swedish abbattoirs was able to extract the pituitaries of pigs and for which purpose, the wife of Paulsen invented a drill for rapid removal as the tissue deteriorated quickly.

Chapter 3. Meeting demand with supply. From extraction to synthesis and from ACTH to a hormone of the posterior pituitary, vasopressin, its connection with DI, oxytocin and a major breakthrough in their synthesis through Vincent Du Vigneaud in the USA.



Molecular structure of Desmopressin

Chapter 4. Developments of desmopressin behind the Iron Curtain. 1950s and 60s, Czechoslovakia. Research on DI had been going on there during the harsh period of communism when in addition to political repression, sometimes aircraft parts had to be adapted for scientific research. The challenge was to increase the antidiuretic effect and decrease the pressor effects of existing DI treatment. Ing. Milan Zaoral, DrSc. working at the Czechoslovak Academy of Sciences in Prague was to synthesise both oxytocin and vasopressin. His observation that naturally occurring vasopressin varied in structure led him to choose the 8D substitution. This proved to be successful. Through systematic study of the structure and activity of vasopressin analogues, Zaoral and his team produced a molecule which today is unique as Desmopressin. For his work which ran counter to the authoritarian research of the time, he was nearly dismissed but for the support of Professor František Šorm. The latter was himself to be dismissed owing to his opposition to the Soviet invasion of 1968. In short, despite the difficulties, the work of the Prague group helped to pave the way for Ferring to introduce peptide hormone therapy into Western Europe.

Chapter 5. includes touching accounts of people with DI whom the company Ferring Pharmaceuticals personally helped. A morse code was picked up by Swedish radio from a father in Paraguay. His daughter Caroline was in urgent need of the new drug and a man from Israel wrote to say he did not believe the Israelis would have been as kind as the Swedish company.

The next use of the peptide was in blood disorders and to Professor Pier Mannucci from Milan, once candidate for the Italian Olympic fencing team and was dedicated to the drug treatment of haemaphilia. Use of Desmopressin reduced the need for blood products. In the USA 10,000 of 20,000 haemophiliacs became infected with HIV, or 9 to 10 the rate of Italy where Desmopressin was used.

From blood coagulation disorders to enuresis in both children and adults.Mention is made of MUDr. Otto Birkás who was working in the Pediatrics Clinic of Palacký University in Olomouc and who published the results of Desmopressin use in children with eneuresis in a local newspaper without permission of the Communist party. He was summarily dismissed and sent to work in the Psychiatry Treatment Centre in Šternberk.

The next chapter covers the use of Desmopressin as a hormone replacement following brain surgery. The first oral preparation which had presented many technical problems is described.

The last part is a look at the future of Desmopressin for improving cognitive function.

This is a charming easy to read book about history, places, people thinking outside the box and putting truth and patients before money.

Alexander Oulton