

## DRUG POINTS

## Sodium in soluble paracetamol may be linked to raised blood pressure

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A 58 year old woman was diagnosed as having polymyalgia rheumatica in 2000. Her blood pressure was slightly raised (140/74 mm Hg). Her past medical history was otherwise unremarkable and her condition stable.

She takes 5 mg prednisolone a day, up to six over the counter Panadol tablets (GlaxoSmithKline, Brentwood; 500 mg paracetamol) a day, and Calcichew D3 Forte (Shire, Basingstoke; 1.25 g calcium carbonate and 10 µg colecalciferol) twice a day.

She complained of headaches, dizziness, and lethargy at a follow-up appointment in March 2004. She was hypertensive, with readings averaging 210/110 mm Hg. We advised her to see her general practitioner to recheck this.

Her blood pressure varied between 158/79 and 210/110 mm Hg over the next few days. Then she mentioned that eight weeks previously she had switched from Panadol tablets to soluble Panadol. Her lifestyle had apparently remained otherwise unchanged.

Each soluble Panadol contains 427 mg sodium. Her daily intake of sodium from six soluble tablets was 2.562 g, not including dietary sodium. The UK government recommends a daily intake of 2 g sodium (5 g salt) for women,<sup>1</sup> and the World Health Organization recommends limiting sodium intake.<sup>2</sup> Salt intake is linked to blood pressure.<sup>3</sup> After returning to insoluble Panadol, her blood pressure was 145/85 mm Hg, confirmed by her general practitioner.

The increase in blood pressure seems temporally related to the switch in drug, which substantially increased in her sodium intake. This case shows the hypertensive effect that the high sodium content in a soluble paracetamol preparation may cause, particularly in susceptible patients. It also emphasises the importance of inquiring about over the counter drugs.

GlaxoSmithKline has no record of similar reports and felt it "unlikely that the sodium caused such a large increase in blood pressure," given that restricting dietary sodium in normotensive and hypertensive populations produces modest reductions in blood pressure.<sup>4</sup> The UK Committee on Safety of Medicines knows of no similar cases, but its database relates primarily to paracetamol's adverse effects and not non-drug ingredients.

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- 1 Scientific Advisory Committee on Nutrition. *Salt and health*. London: Stationery Office, 2003.
- 2 World Health Organization. Global strategy on diet, physical activity, and health. In: Fifty seventh world health assembly. Item 12.6. WHA 57.17. Geneva: WHO, 2004. [www.who.int/gb/ebwha/pdf\\_files/WHA57/A57\\_R17-en.pdf](http://www.who.int/gb/ebwha/pdf_files/WHA57/A57_R17-en.pdf) (accessed 27 Mar 2006).
- 3 Chobanian AV, Hill M. National Heart, Lung, and Blood Institute workshop on sodium and blood pressure: a critical review of current scientific evidence. *Hypertension*. 2000;35:858-63.
- 4 Midgley JP, Matthew AG, Greenwood CM, Logan AG. Effect of reduced dietary sodium on blood pressure: a meta-analysis of randomized controlled trials. *JAMA* 1996;275:1590-7.

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## Pictures from the past

Recently I came across a small illustrated book, *Jewish Life in Canada*, published in 1976 by the artist William Kurelek and coauthor Abraham Arnold. An unusual name, Kurelek, stirred an old memory.

In 1953 I was working as a senior registrar at the Maudsley Hospital in London. One day, a young man aged 26 came to the hospital's front door depressed, dishevelled, and disorganised, and in obvious need of psychiatric care. The patient was assigned to me, and his history soon emerged.

He was of Ukrainian heritage, raised on a Canadian farm, where he had had a conflicted relationship with his father. He had travelled to England, partly to further his art education but also to seek the psychiatric treatment that he felt he needed. He wandered into the Maudsley Hospital, which he had read about in a book in a Montreal library.

I have a habit of preserving my diaries, and I found entries in May 1953 confirming my interviews with William Kurelek. He was transferred to Netherne Hospital in Surrey in November 1953 for further care. Before his transfer, he painted an autobiographical picture titled *The Maze*, rather in the style of Hieronymus Bosch, depicting his internal struggles and confusion. That painting is on display in the permanent collection of the Bethlem Royal Hospital Archives.

During the course of his illness, he painted a scene of labourers digging up tram rails in Camberwell, titled *Tramlines*. London Passenger Transport Board acquired it for 30 guineas, and it was displayed in their board room at the time. It is still in their

archives (personal communication, Jonathan Riddell, curator, London Transport Museum).

After receiving electroconvulsive therapy at Netherne, he recovered, returned to Canada, and established a successful career as a painter of mainly prairie themes. He married and had four children. Sadly, he died of cancer at the age of 50 in 1977.

One of his paintings sold at auction for \$240 000 (£135 000), and others are displayed in many museums in Canadian cities. He was memorialised in 1991 by the Canadian Post Office, which issued a set of stamps showing four of his paintings—*Leaving Homeland*, *Winter in Canada*, *Clearing Land*, and *Growing Wheat*. His paintings illustrating *Jewish Life in Canada* are in the collection of Mr and Ms Jules Loeb.

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The clinical details mentioned are in the public domain and included, with the family's permission, in *Kurelek: A Biography* (1986) by Patricia Morley.

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