

Statement on Meniere's Disorder and the use of intravenous saline

A member of the NSW Meniere's Support Group recently described two attacks of vertigo while in hospital for orthopaedic surgery. She described them as mild, but vomited in both attacks. Her low salt diet normally prevented the vertigo, but in hospital she was having regular intravenous injections of antibiotics, with a fairly large infusion of saline.

When she told the nurse she thought the saline infusion might have caused the attack of vertigo, she was given the next dose in distilled water. Her balance remained normal. Next day however another nurse insisted on using saline, and about two hours later she had another mild spell of tinnitus, dizziness and vomiting.

Salt and vertigo

Salt's major role as a trigger for vertigo is well established. In London in the 1960s experimental salt loading produced the classical attacks of severe vertigo, and a sodium intake under 50 mmol/day prevented them (1), but complaints to the Ethics Committee halted further research (Professor WPR Gibson, Royal Prince Alfred Hospital, Sydney, personal communication 1999).

Patients at the Menzies Clinic in Hobart can usually prevent the vertigo of Meniere's Disorder by following a low salt diet, where dietary compliance is confirmed by finding sodium <50 mmol/day in a 24 h urine sample. Severe attacks are very rare if there is good compliance.

Many Hobart patients with remissions on this diet have said they have become far more sensitive to salt. They often report an attack of severe vertigo and vomiting after a single dietary indiscretion, even if an *ad lib* diet had previously provoked only one attack in a month. This increased sensitivity is reported frequently and would warrant investigation, but no Hobart patient with Meniere's Disorder has given informed consent to research on salt. Greater sensitivity would be an additional contraindication to using intravenous saline.

Possible risk of saline infusions

On first principles intravenous saline would be expected to cause vertigo in any case, because a litre of normal saline supplies 154 mmol of sodium, which is over three times greater than the patient's usual intake from all sources in a whole day. The risk may be small if blood volume is depleted (a litre of whole blood or plasma would also provide about 150 mmol of sodium).

Presumably it is when electrolyte and fluid balance are stable that Meniere's patients would be most sensitive to an extra sodium load. Alternatives to normal saline would include dextrose or N/5 saline with 4% dextrose (in the absence of diabetes). N/5 saline has 31 mmol/L.

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Reference

1. Harrison MS, Naftalin L. Meniere's disease: mechanism and management. Springfield, Illinois: Charles C Thomas; 1968:85–101.