Carbon monoxide poisoning

Sir, The recent review of carbon monoxide poisoning by Balzan et al1 provided helpful advice about this sometimes difficult diagnosis. We would, however, hesitate to follow the recommendations made about the treatment of CO poisoning. Their assessment of the benefit of hyperbaric oxygen (HBO) does not appear to be based on the presented evidence and the potential complications of transporting critically ill patients to HBO facilities do not receive the attention they merit.

The authors cite one randomised trial assessing HBO in patients who were not pregnant.2 The indications they propose for HBO include two (impaired consciousness and cardiovascular instability) that were the exclusion criteria in this trial. Case series are also cited.3 4 We do not believe these provide sufficient information to allow clinically useful comparison between different treatments. Their evidence is inadequate rather than to test hypotheses. We conclude with the observation of Thom et al (our italics):3 “Questions that should be addressed include whether treating patients [with hyperbaric oxygen] more than 6 hours after poisoning is effective and whether the benefits outweigh the costs of transportation and treatment.”

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Heart failure in the elderly

Sir, Although I enjoyed reading the well-researched review of the management of heart failure in the elderly,1 I disagree with the emphatic restatement of the conventional view that adjunctive treatment with spironolactone is absolutely contraindicated in patients already co-prescribed angiotensin-converting enzyme (ACE) inhibitors and loop diuretics. The reality is that amongst patients already co-prescribed ACE-inhibitors and loop diuretics, there will always be a few with a refractory, and potentially life-threatening hyponatraemia, and in some instances, to hyperaldosteronism,2 for which corrective treatment could either be resection of an adrenocortical adenoma or co-prescription of spironolactone and ACE-inhibitors.2

In my own register, dating back to 1984, comprising 349 patients co-prescribed ACE-inhibitors and loop diuretics for heart failure, three women, now aged 81, 81 and 79, respectively, co-prescribing hypertension and hyponatraemia, the latter refractory to ACE-inhibitors. In the first patient, with a nadir serum potassium of 2.7 mmol/l, following co-prescription of spironolactone 25 mg/day, frusemide 40–80 mg/day and enalapril 10 mg/day followed by lisinopril 20 mg/day, the plasma potassium was maintained in the range 3.9–4.4 mmol/l during the last six months of a 30-month period of ‘triple’ therapy. Prior to commencement of ‘triple’ therapy, her 24-hour urinary aldosterone was 7 mmol (reference range 10–50) in 1050 ml urine, and her 09.00 h serum cortisol was 516 nmol/l.

In the second patient, the co-prescription of spironolactone was precipitated by a fall in serum potassium to 2.2 mg/dl whilst on enalapril 20 mg/day and frusemide 80 mg/day. Her 24-hour urinary aldosterone output was 25 mmol (in 1620 ml urine), but neither 24-hour urinary cortisol nor serum cortisol were requested due to the (erroneous) perception that a serum potassium of 2.6 mmol/l, 11 years previously, rendered the diagnosis of Cushing’s syndrome unlikely in the absence of the development of clinical stigmata over that period. Ultrasonography had also not identified any adrenal abnormality. This patient was subsequently prescribed spironolactone 25 mg/day, in addition to frusemide 80 mg/day, ramipril 10 mg/day, spironolactone 20 mg/day and enalapril 120 mg/day, ramipril 10 mg/day, and laci-pine 4 mg/day, yielding values of 2.0 mmol and 71 nmol/l, respectively, in 800 ml urine. Computed tomography showed that she had right-sided hydrocephalus, but no adenoma. During the subsequent three months, spironolactone was progressively increased to 200 mg/day, frusemide reduced to 80 mg/day, whilst ramipril was maintained at 10 mg/day and lacidipine increased to 6 mg/day. Consequently, her blood pressure fell to 200/90 mmHg, but her plasma potassium remained at 2.9 mg/dl, with urea 17.1 mmol/l and creatinine 130 μmol/l. Due to the subsequent development of a pruritic maculo-papular rash, losartan 50 mg bid was substituted for ramipril, and she is now undergoing titration of the spironolactone dose, due to a 75% reduction in frusemide requirements (based on transient development of reversible prerenal uraemia).

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This letter was shown to the author, who responded as follows:

Sir, I make no apology for stating that the use of spironolactone (and other aldosterone-reducing drugs), in conjunction with ACE-inhibitors should be discouraged in the elderly. This combination in older people...
Heart failure in the elderly.

O. M. Jolobe

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