CORRESPONDENCE

Value of cocaine in opiate-containing elixirs R G Twycross, DM..... 1348	Hexachlorophane—yes or no? J M Gowdy, MD..... 1353	Doctors and the global population crisis Sheila A Adam, MRCP, and Ann McPherson, MB..... 1356
The perilous skateboard D H Wilson, FRCS; C D Jefferiss, FRCS; Margaret I Little, MRCPsych..... 1349	Indomethacin in pleurisy K P Goldman, FRCP..... 1353	Treatment of hepatic hydatid disease M Danis, MD, and others..... 1356
Primary excision of brain abscess J S Garfield, FRCS; A J Keogh, FRCS..... 1349	Quality v quantity in children H P Dunn, FRCOG..... 1354	Relapse in leprosy K Jesudasan..... 1356
Treating dysentery S Bloch, MB, and P B Reddaway, MA..... 1349	Fatal chlormethiazole poisoning in chronic alcoholics Joan M Horder, MRCPATH..... 1354	Indomethacin, prostaglandins, and schizophrenia D F Horrobin, BM..... 1357
Science, race, and intelligence B R Silk, MRCP..... 1350	Outpatient chemotherapy for breast cancer B V Palmer, FRCS..... 1354	Alpha-fetoprotein in antenatal diagnosis of neural tube defects R Carachi, FRCS..... 1357
Incidence and mortality of acute pancreatitis M J McMahon, FRCS; C W Imrie, FRCSGLAS..... 1350	Blood for antenatal tests L G R Hull, MRCS..... 1354	Asymptomatic gonorrhoea in men M J Baisdon, MRCP, and H S K Singha, FRCS..... 1357
Role of the hospital in primary paediatric care G M Komrower, FRCP..... 1350	Association of autoimmune diseases with HLA-B8 J von Knorring, MD..... 1354	SI units J E Trapnell, FRCS..... 1357
Names of drugs R Ham, MRCP..... 1351	Renal failure associated with ergot poisoning J R Webb, MRCP..... 1355	Cancer of the lung and bladder S Walter, MD, and others..... 1357
ECT and the media J M Bird, MB..... 1351	Mobilisation after myocardial infarction R B Stott, MRCP, and (Miss) Susan Joyce, MCSP..... 1355	Long-term Althesin infusion and hyperlipidaemia A R W Forrest, MRCP, and others..... 1357
Gamma-glutamyl transferase in ascitic fluid in primary hepatoma W W Noll, MD; T J Peters, FRCP, and G Neale, FRCP..... 1351	Bilateral injuries in childhood: an alerting sign? Stephanie A Laing, MFCM..... 1355	Management of children with nephrotic syndrome J R T Gabriel, MRCP..... 1358
Problems with IUCD tails R A Sparks, MRCP..... 1351	Treatment of depression S Lieberman, MRCPsych..... 1355	Obstetric audit in general practice B Bedford, MB..... 1358
Beta-blocking drugs and thyroid function J Feely, MRCP, and others; B I Hoffbrand, FRCP..... 1352	Proparanolol and thyroid surgery R L Ward, FRCP, and W G Paley, FRCS..... 1355	Advisory Committee on Borderline Substances A J Cooper, MD..... 1358
Liquorice-induced cardiac arrest J Montoliu, MD; Barbara A Bannister, MRCP, and others..... 1352	Noxythiolin-resistant organisms K G Edwards, MB..... 1355	Matching resources to needs A K Thould, FRCP..... 1358
Dermatitis from cosmetics I W Caldwell, FRCP..... 1353	Vertigo in children A B Alexander, FACS..... 1356	Emergency in emergency departments C C Slack, FRCS..... 1359
Erythema nodosum and oral contraceptives A G Taaffe, MRCP, and others..... 1353	Hot flushes after hypophysectomy I F Larsen, MD..... 1356	Decline of visiting A E Loden, MB..... 1359
		Points from Letters Human tick infestation in Britain (I P Gormley and J A Raeburn; T Norman; Eleanor P Butler; Elizabeth J F Harries; T L Henderson)..... 1359

Correspondents are urged to write briefly so that readers may be offered as wide a selection of letters as possible. So many are being received that the omission of some is inevitable. Letters should be signed personally by all their authors.

Value of cocaine in opiate-containing elixirs

SIR,—The Brompton Cocktail¹ continues to enjoy considerable popularity as a convenient method of administering morphine or diamorphine orally to relieve pain in advanced cancer. The failure of this year's coca crop may, however, force physicians to reconsider the need for cocaine in opiate-containing elixirs.

Cocaine was first used with morphine by Herbert Snow at the end of the last century on the grounds that it helped "sustain vitality."² More recently it has been claimed that the addition of cocaine enhances the mood of the patient: "The euphoria renders the patient comparatively cheerful, and relieves his mental and physical distress."³ On the other hand it has been reported that the longer an opiate-cocaine elixir is administered, the greater is the likelihood that the patient will become depressed.⁴

In order to clarify matters a randomised controlled trial of morphine and diamorphine elixirs with and without cocaine was undertaken.⁵ After stabilisation on an individually

determined four-hourly regimen only 61 out of 400 patients were well enough to cross over, a statistic that highlights the problems of treatment evaluation in the terminally ill. Surprisingly, it was found that although introducing cocaine (10 mg/dose) resulted in a small, statistically significant increase in alertness, stopping cocaine had no detectable effect. Although debatable, it was considered that these findings could be explained if, in this dose, cocaine was of borderline efficacy and that tolerance to this borderline effect occurred within a few days. That tolerance does not always readily occur, however, is indicated by the occasional phenomenon—not seen in this trial—of the patient who becomes restless, agitated, confused, or hallucinated when prescribed cocaine and whose symptoms abate only when cocaine is withdrawn.

As a result of the trial I have stopped using cocaine routinely. Moreover, because patients frequently find the traditional cocktail too sickly or complain of its alcoholic bite I now prescribe morphine alone in chloroform water

or, where indicated, with an antiemetic such as prochlorperazine. I add cocaine only if a patient remains drowsy after three or four days on a steady dose of morphine. Even then my policy is to give a test dose of dexamphetamine or methylphenidate in order to help determine whether the addition of cocaine is likely to be of benefit. I have, in fact, used cerebral stimulants on only two or three occasions during the past year.

I regard it as a matter of regret, therefore, that the current *British National Formulary* includes both morphine- and diamorphine-cocaine elixirs since inclusion lends official blessing to the efficacy of such combinations. Even more regrettable is the inclusion of variant mixtures containing chlorpromazine. Although open to correction, I would suggest that, given their respective doses, any stimulant action of cocaine will be antagonised by the chlorpromazine.

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¹ Martindale: *The Extra Pharmacopoeia*, ed A Wade, 27th edn, p 973. London, Pharmaceutical Press, 1977.

² Snow, H, *British Medical Journal*, 1896, 2, 718.

³ Love, M, *British Medical Journal*, 1962, 2, 1192.

⁴ Twycross, R G, and Wald, S J, in *Advances in Pain Research and Therapy*, ed J J Bonica and D Albe-Fessard, vol 1, p 653. New York, Raven Press, 1976.

⁵ Twycross, R G, DM Thesis, University of Oxford, 1976.