chronic persistent hepatitis may, however, survive for years without histological progression. Initiation of treatment in these patients is controversial. The use of interferon alfa in patients with decompensated cirrhosis, organ transplant recipients, children, and patients with extrahepatic manifestations of infection has not been properly assessed. Recent reports suggest that interferon alfa can be used safely and effectively in patients with HIV infection and in patients with essential mixed cryoglobulinaemia.¹¹ ¹²

Ribavirin, a nucleotide analogue, has been shown in pilot studies to reduce concentrations of serum alanine aminotransferase and hepatitis C virus RNA.¹³ This drug is currently being evaluated in large multicentre randomised controlled trials. Preliminary data suggest that it is effective but decreases serum hepatitis C virus RNA at a slower rate than interferon alfa. Nevertheless, as an oral drug with few side effects, it may find a role in maintenance suppression in patients with chronic hepatitis C virus infection.

Patients with both autoimmune markers and hepatitis C virus present a diagnostic and management challenge. There is at present no reliable marker to determine whether autoimmunity or hepatitis C virus infection is the major disease process. These patients should receive corticosteroids first and only if they fail interferon alfa, since interferon alfa may aggravate immune mediated hepatocyte injury in patients with autoimmune chronic active hepatitis.

Patient education is an important part of management. General knowledge about hepatitis C virus among the public is slight. Patients with chronic hepatitis C should be counselled in the light of our current understanding. The route of transmission in sporadic cases of hepatitis C is still unknown. The risk of sexual transmission seems to be low when compared with hepatitis B virus, HIV, and other sexually transmitted diseases. But the risk is five times higher in partners of

patients coinfected with HIV.¹⁴ Barrier contraception has been shown to reduce the risk of transmission.¹⁵

JOHNSON Y N LAU Head of Hepatic Virology Laboratory

GARY L DAVIS Director

Section of Hepatobiliary Diseases, Division of Gastroenterology, Hepatology, and Nutrition, University of Florida College of Medicine, Gainesville, Fa 32610, USA

- 1 Esteban JI, Lopez-Talavera JC, Genesca J, Madoz P, Viladomiu L, Muniz E, et al. High rate infectivity and liver disease in blood donors with antibodies to hepatitis C virus. Ann Intern Med 1991:115:443-9.
- 2 Alberti A, Morsica G, Chemello L, Cavalletto D, Noventa F, Pontisso P, et al. Hepatitis C viraemia and liver disease in symptom free individuals with anti-HCV. Lancet 1992;340:697-8.
- and liver disease in symptom free individuals with anti-HCV. Lancet 1992;340:697-8.
 Colombo M, Kuo G, Choo QL, Donato MF, Del Ninno E, Tommasini MA, et al. Prevalence of antibodies to hepatitis C virus in Italian patients with hepatocellular carcinoma. Lancet 1989;ii:1006-8.
- 4 Wang JT, Wang TH, Lin JT, Sheu JC, Lee CZ, Chen DS. Improved serodiagnosis of post-transfusion hepatitis C virus infection by a second generation immunoassay based on multiple recombinant antigens. Vox Sany 1992;62:21-4.
- recombinant antigens. Vox Sang 1992;62:21-4.

 5 Farci P, Alter HJ, Wong D, Miller RH, Shih JW, Jett B, et al. A long term study of hepatitis C virus replication in non-A non-B hepatitis. N Engl J Med 1991;325:98-104.
- replication in non-A, non-B hepatitis. N Engl J Med 1991;325:98-104.

 6 Van der Poel CL, Cuypers HTM, Reesink HW, Weiner AJ, Quan S, DiNello R, et al. Confirmation of hepatitis C virus infection by new four recombinant immunoblot assay. Lancet 1991;337: 317-9.
- 7 Yoshizawa H, Nojiri N, Takahashi K. Measurement of anti-GOR antibodies in prevention of post transfusion non-A, non-B hepatitis. *Lancet* 1991;337:47-8.
- Lau JYN, Davis GL, Orito E, Qian KP, Mizokami M. Significance of antibody to the host cellular gene derived epitope GOR in chronic hepatitis C virus infection. *Journal of Hepatology* (in press).
 Davis GL, Lau JYN, Urdea MS, Neuwald P, Wilber JC, Albrecht J, et al. Quantitative detection
- 9 Davis GL, Lau JYN, Urdea MS, Neuwald P, Wilber JC, Albrecht J, et al. Quantitative detection of hepatitis C virus (HCV) RNA by solid phase branched chain DNA amplification (bDNA): application in interferon treated patients. Hepatology 1992;16(suppl):200A.
- application in interferon treated patients. Hepatology 1992;16(suppl):200A.
 10 Tiné F, Margrin S, Craxi A, Pagliaro L. Interferon for non-A, non-B chronic hepatitis: a meta-analysis of randomised controlled trials. J Hepatol 1991;13:192-9.
 11 Boyer N, Marcellin P, Degott C, Degro F, Saimot AG, Erlinger S, et al. Recombinant interferon-
- 11 Boyer N, Marcellin P, Degott C, Degro F, Saimot AG, Erlinger S, et al. Recombinant interferonalfa for chronic hepatitis C in patients positive for antibody to human immunodeficiency virus. J Infact Dis 1992;165:723-6.
- 12 Durard JM, Kaplanski G, Lefevre P, Richard MA, Andrac L, Trepo C, et al. Effect of interferon-α2b on cyroglobulinemia related to hepatius C virus infection (letter). J Infect Dis 1992;165:778-9.
 13 Reichard O, Andersson J, Schvarz R, Weiland O. Ribavirin treatment for chronic hepatitis C.
- 13 Reichard O, Andersson J, Schvarz R, Weiland O. Ribavirin treatment for chronic hepatitis C Lancet 1991;337:1058-61.
- 14 Eyster ME, Alter HJ, Aledort LM, Quan S, Hatzakis A, Gosdert JJ. Heterosexual cotransmission of hepatitis C virus (HCV) and human immunodeficiency virus (HIV). Ann Intern Med 1991;115:764-8.
- 15 Kaplan V, Zala G, Havelka J, Joller J, Jemelka H, Meier B, et al. Heterosexual transmission of hepatitis C virus. Schweiz Med Wocherschr 1992;122:643-5.

Drug smuggler's delirium

Suspect cocaine intoxication in travellers with fever and a bizarre mental state

Drug smuggling by swallowing packages of drugs or by concealing them in the rectum or vagina has recently received much publicity after several couriers have died following rupture of these parcels. The drugs are usually swallowed as small packets weighing 1-12 g, wrapped in several layers of condoms, toy balloons, plastic bags, or aluminium foil. In spite of these coverings, the drug may leach out. When this occurs the couriers often take benzodiazepines to stop themselves from getting too "high" or agitated, but the outcome is nevertheless often fatal.12 Radiological investigation of suspected individuals has increased the number of smugglers apprehended, but some still evade detection. If the drugs do not appear in the stool as planned, or if symptoms of intoxication develop, the smuggler may present to a casualty department, fearing a package has burst, fabricating a story to try to avoid criminal proceedings.

The symptoms and signs of heroin intoxication are familiar to most clinicians, but cocaine poisoning may be harder to recognise. Euphoria, disorientation, behavioural change, mydriasis, acute toxic psychosis, and coma may be misconstrued as a primary psychiatric illness.³ Fever is common in cocaine poisoning—caused by a combination of reduced peripheral heat loss due to vasoconstriction, increased heat production with agitation and muscle rigidity, and resetting of hypothalamic heat regulating centres⁴—and need not imply

an infectious cause. Cardiovascular manifestations include tachycardia, hypertension, peripheral vasoconstriction, and occasionally asystole and ventricular tachycardia or fibrillation. Combined with a history of recent international travel, especially in West Africa or South America, these signs should raise the suspicion of "body-packing."

Cocaine metabolites may be detected in the serum or urine. Tests to determine drug concentrations are expensive and take time, but cheap, rapid screening tests are now available that provide a qualitative answer within one hour—for example, by fluorescence immunoassay on a urine sample. Suspected smugglers should be admitted for observation and, ideally, be managed in an intensive care unit. A search for secreted packages may take time, and there is a great danger of massive overdose if the packages decompose in the intestinal tract.

Plain abdominal films have limited success in identifying drug packages, with false negative rates of 1.2% to 33%. The packaging may not produce an outline visible on a radiograph, and shadows due to constipation may obscure their silhouette. Ultrasonography is commonly disappointing and contrast study of the bowel or computed tomography of the abdomen may be the only way to detect the packages. If there are no signs of intoxication and the packages are visible radiologically the patient may be managed with gentle aperients, so as not to

precipitate rupture.2 Regular radiological confirmation of successful transit through the bowel is essential. Endoscopic removal should not be attempted as the risk of inadvertently puncturing a package is high." If there are signs of developing toxicity or the packets fail to progress through the gut satisfactorily then they must be removed surgically.

Acute cocaine overdose may occur at any stage if a package bursts. Standard resuscitation procedures should be applied. Intravenous lignocaine (50-100 mg as a bolus) may be used for ventricular arrhythmias. Refractory arrhythmias or seizures contraindicate further lignocaine, and propranolol (0.5-1 mg intravenously, to a maximum of 5 mg) can be used.12 This may, however, worsen hypertension by increasing the peripheral vascular resistance. Labetalol is theoretically better, but experience with this drug in this condition is limited. Hypertension may be controlled by a nitroprusside infusion, which has the additional advantage of aiding heat loss by peripheral vasodilatation.

Seizures may be treated with intravenous benzodiazepines -for example, diazepam 2.5-5 mg—or short acting barbiturates—for example, sodium pentothal 25-50 mg—and very large amounts of anticonvulsants may be required.13 Standard evaporative cooling methods are often insufficient to control hyperthermia, and cooling blankets, cooled intravenous fluids, and ice water gastric lavage have been used.14 In our experience dantrolene sodium (1 mg/kg intravenously over 10-15 minutes, repeated every 15 minutes, up to a maximum of 10 mg/kg/24 hours) is successful in lowering the temperature, though others report less success.¹⁵ Fever, muscle rigidity, and seizures may produce rhabdomyolysis and subsequent renal failure.16 Intravenous "renal dose" dopamine and mannitol should be given to patients with proved myoglobinuria: cocaine is best excreted in acid urine, so alkalinisation of the urine to reduce precipitation of myoglobin is not desirable. Sedation, paralysis, and ventilation may be the only way to control fever and muscle rigidity and achieve haemodynamic stability until the acute crisis is over.

> **PUNIT S RAMRAKHA** Senior House Officer, Intensive Care Unit IAN BARTON Senior Registrar in Renal Medicine

St Thomas's Hospital, London SE1 7EH

- Dunne JW. Drug smuggling by internal body concealment. Med J Ausr 1983;2:436-9.
 McCarron MM, Wood JD. The cocaine "body packer" syndrome—diagnosis and treatment. 7AMA 1983:250:1417-20
- 3 Fishbain DA, Welti CV. Cocaine intoxication, delirium and death in a body-packer. Ann Emerg Med 1981:10:531-2
- 4 Cregler LL, Mark H. Special report: medical complications of cocaine abuse. N Engl J Med 1986:315:1495-500
- 5 Nanji AA, Filipenko JD. Asystole and ventricular fibrillation associated with cocaine intoxication. Chest 1984;85:132-3.
- Horrocks AW. Abdominal radiography in suspected "body packers." Clin Radiol 1992;45:322-5.
 Karhunen PJ, Souranta H, Penttila A, Pitkaranta P. Pitfalls in the diagnosis of drug smugglers abdomen. J Forensic Sci 1991;36:397-402.
- 8 Rauber K, Muller D. Abdomenubersichtsaufnahme zur identifiierung von rauschgiftschmugglern. Deutsche Medizinische Wochenschrift 1983;108:1549-51.
- 9 Gerhadi R, Marc B, Alberti X, Baud F, Diamant-Berger O. A cocaine body packer with normal abdominal plain radiograms: value of drug detection in the urine and contrast study of the bowel. Am 7 Forensic Med Pathol 1990:11:154-7
- 10 Kersschot EA, Beaucort LE, Degryse HR, De Schepper AM. Roentgenographical detection of cocaine smuggling in the alimentary tract. Fortschritte auf dem Gebiete der Rontgenstrahlen und der Nuklearmedizin 1985;142:295-8.
- 11 Suarez CA, Arango A, Lester III JL. Cocaine-condom ingestion, surgical treatment. JAMA 1977;238:1391-2
- 12 Boobis AA, Burley D, Davies DM, Davies DS, Harrison PI, Orme ML'E, et al. Cocaine. In: Dollery CT, ed. Therapeutic drugs. Vol 1. Edinburgh: Churchill Livingstone, 1991:C330-4.
- 13 Bettinger J. Cocaine intoxication: massive oral overdose. Ann Emerg Med 1980;9:429-30.
- 14 Rosenberg J, Pentel P, Pond S, Benowitz N, Olson K. Hyperthermia associated with drug intoxication. Crit Care Med 1986;14:964-9.
- 15 Clark WG, Lipton JM. Drug-related heatstroke. In: Schonbaum E, Lomax P, eds. Thermo-
- regulation: pathology, pharmacology and therapy. New York: Pergamon Press, 1991:125-77.

 16 Menashe PL, Gottlieb JE. Hyperthermia, rhabdomyolysis and myoglobinuric renal failure after recreational use of cocaine. South Med 7 1988;81:379-80.

Closing mental hospitals

Simple information about hospital closures is not available

Less than six weeks before the start of sweeping reforms to community care in Britain the government's policy on mental health care is getting an increasingly bad press. Public outcry followed the revelation that Ben Silcock, who was mauled after climbing into the lions' compound at London Zoo, was severely mentally ill and was not getting adequate treatment. In response the health secretary, Virginia Bottomley, promised that she would consider new legislation on compulsory supervision and treatment of mentally ill people in the community.1

Earlier this month the campaigning charity Sane (Schizophrenia—A National Emergency) reported the story of a mentally ill woman known to be at risk of suicide who attempted suicide while living rough.2 Saneline, the charity's telephone helpline set up in 1992 to offer support and advice to people with mental illness and their carers, received 50 000 calls in its first year. More than half of the callers, says Sane, were seriously mentally ill and desperate for help.

Now another mental health charity, the National Schizophrenia Fellowship, has collected data that further call into doubt current mental health policy. On p 475 the results of the fellowship's survey of mental hospital closures in England show that 45 hospitals are due to close by the year 2000. Yet last July the Department of Health was aware of only 29 such closures, and last month the parliamentary secretary for health, Tim Yeo, could not say how many were planning to

close because no data are held centrally. How can the government monitor the programme, and even speed it up, if it does not know the simple facts about the number of hospitals affected?

Devolution of responsibility from central government to regional and district health authorities may be a good thing, but when this includes the collection and use of important NHS data it hampers monitoring of national programmes like that for modernising mental health care. And data on mental hospital closures are important.

We need to know what is happening to mental hospitals because they still contain most of the country's long stay (continuing care) beds. Most commentators on mental health care agree that some people with severe mental illnesses (mostly those with chronic schizophrenia) need the safe, full time specialist care that is offered in the long stay wards of the old asylums. Asylum, of course, means a place of

Even the most ardent critics of the closure programme agree that modern, small, and homely residential "sanctuary" units are preferable to drafty wards in crumbling old hospitals where staff morale is often low. But they argue that until enough new units have been funded, provided, and shown to be working the traditional hospitals are better than nothing. And the old hospital sites might be the best places to build the new units because the local population is usually tolerant, and