glomeruli with recovery of histological changes; almost all were normocellular with open capillary lumina, with only occasional glomeruli having mild tuft collapse and mild periglomerular fibrosis. The intersititum showed only mild tubular dilatation (figure, B). Electron microscopy showed near normal podocytes and disappearance of pseudocrescents; endothelial cytoplasmic inclusions were absent. 14 weeks after stopping dialysis his serum urea was 8 mmol/L and creatinine 132 μmol/L, urinary protein 0·6 g/L, serum albumin 39 g/L, total cholesterol 5·9 nmol/L, and CD4 count $0{\cdot}12\times10^9$/L. Serum HIV-RNA by branched chain DNA assay was less than 500 copies/mL.

A report by UNAIDS indicates that approximately 7000 young people contract HIV-1 infection every day worldwide; 5–10% will develop nephropathy and end-stage renal disease, with a prevalence of HIV-1-associated end-stage renal disease as high as 38% in some inner city hospitals in the USA.[2] Our patient had typical clinical features of HIV-1 nephropathy with heavy proteinuria and absent peripheral oedema, rapid progression to dialysis-dependent renal failure without hypertension, normal-sized kidneys on ultrasound examination, and pathological features of collapsing glomerulopathy with cystic dilation of the tubules and endothelial cells containing tubuloreticular cytoplasmic inclusions.[1] This case supports the hypothesis that viral proteins and/or the host of cytokines released during active viral replication can have cytopathic effects on the kidneys;[1,3] however, it is also possible that nephropathy may occur as a result of direct infection of the glomerular and tubular epithelial cells by HIV-1 in susceptible patients since HIV-1 has been shown to be in the kidneys of seropositive individuals both with and without nepropathy.

Antiretroviral treatment can improve glomerular and tubular histopathological changes of HIV-1-associated nephropathy in dialysis-dependent patients. Other reports have indicated some transient improvement in renal function and proteinuria in patients with nephropathy after treatment with steroids,[4] angiotensin-converting enzyme blockers,[4] or zidovudine,[5] though most of these patients ultimately required long-term dialysis. Whether early initiation of anti-retroviral therapy, before substantial fibrosis occur, results in optimum benefit is unknown. The response of our patient to triple antiretroviral therapy suggests that studies may be warranted to determine whether such therapy may obviate the need for long-term dialysis in some patients.

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Neuroleptics in progressive structural brain abnormalities in psychiatric illness

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Progressive abnormalities have been reported in schizophrenic patients.[1] We did a prospective, longitudinal study of brain structure. 31 drug-naive psychotic patients underwent computed tomography (CT) at first admission to hospital and after 5 years of illness. We obtained written informed consent from all patients. A radiologist masked to the patients' identities and diagnoses, date of scans, and the nature of the study compared the first and second CT scans. Brain atrophy was assessed on a visual scale, on which 0–1 meant no changes or dubious atrophy and 2–3 meant moderate or severe atrophic changes. After 5 years of illness, we found significant progression of frontal atrophy in 21 schizophrenic patients, compared with nine consecutively included healthy volunteers. We saw progressive frontal atrophy in ten non-schizophrenic patients, but to a lesser degree.

During follow-up, schizophrenic patients recieved a median of 172 040 mg (range 19 540-928 450) neuroleptic medication (chlorpromazine equivalents). Seven non-schizophrenic patients received a median of 20 780 mg (range 678-141 596). The only atypical neuroleptic used was clozapine, administered to three patients, always in high doses and in combination with traditional neuroleptics.

Patients were thought to have a chronic, non-remittent course of illness if all psychiatric records described a state of permanent psychosis, and if they were psychotic at the time of the reinvestigation. Some patients were described as remitted, but if in long interviews they showed firm delusive systems that seemed to be integrated but not necessarily overt parts of their lives, and if they were judged to be permanently deluded, despite their records, they were classified as non-remittent. This classification was made without knowledge of the results of the CT scans. Nine schizophrenic patients (eight men and one woman) had been continuously psychotic during follow-up. At reinvestigation, non-remittent patients had significantly higher ratings for psychopathology (SANS and SAPS[2]) than remittent patients.

Because of the small sample, we did exact tests in a logistic regression analysis with LogXact, adjusted for sex, course of illness, (remission/non-remission), diagnosis, and neuroleptic load. Course of illness and diagnosis had no significant impact on the development of frontal atrophy. Sex was significant ($p=0{\cdot}035$) if course of illness was not included into the model, but sex became non-significant ($p=0{\cdot}138$) if course of illness was included. Neuroleptic load was significant whether sex was included or not ($p=0{\cdot}013$ and 0·0003, respectively). The estimated risk of atrophy increases by 6·4% for each additional 10 g neuroleptic drug. Non-remittent patients received a higher neuroleptic dose than remittent patients, but the model was corrected for this interaction.

Association has been shown between frontal atrophy or aplasia and non-respondence to antipsychotic drugs,[3] and neuroleptic side-effects as tardive dyskinesia and akathisia have been associated with wider sulci.[4] These studies do not include neuroleptic load as a possible explanatory factor for the anormalities found. Traditional neuroleptics have been shown to affect brain structure because they enhance the volume of basal ganglia,[5] but the potential impact of neuroleptics, on frontal cortex, for example, is not known.

Factors causing progression of brain atrophy have not yet been identified. Our study showed an unexpected effect of

neuroleptic medication on cerebral cortex, but our analysis suggests that the results cannot be taken as accidental. Future longitudinal studies of brain structure in schizophrenia are needed to show whether atypical antipsychotic drugs may be more beneficial.

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Alcohol, drinking, illicit drug use, and stress in junior house officers in north-east England

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Doctors, due to the demanding nature of their jobs, are stressed. In July, 1997, we assessed the lifestyles of junior house officers (residents) in 18 National Health Service (NHS) Trust hospitals in the north east of England, UK, who had been surveyed during the second year of their medical course.

We contacted 114 house officers 1 year after graduation from Newcastle University; 90 (51 women) agreed to participate. Anonymous information was obtained by a self-completed questionnaire, administered on site by one investigator (DB). The questionnaire was similar to that used in our previous surveys of students,[1] with the addition of the 30-item general health questionnaire (GHQ)[2] and job satisfaction component of the occupational stress indicator.[3]

The results are shown in the table. Among the 93% who drank alcohol, over 60% of both sexes exceeded recommended safe limits. The main reason given for drinking was "pleasure" (91·7% men and 97·9% women). More than 35% of men and 19% of women were currently using cannabis, with over 11% taking it regularly (weekly or monthly). Use of hallucinogenic mushrooms, lysergic acid diethylamine (LSD), ecstasy, amyl nitrite, cocaine, and amphetamines was also reported; 13% (M) and 10% (F) reported current use of one or more of these drugs. "Pleasure" was also the main reason for taking illicit drugs (76·0% in both sexes).

On the hospital anxiety and depression scale, 21% of men and 45% of women had anxiety scores of 8 or more, indicating possible pathological anxiety. On the GHQ, 36% scored over the threshold score of 4. Scores for the OSI component suggested some were dissatisifed with their job. 58% of men and 51% of women reported sleeping on average 7–8 hours per night whilst 42% and 49% slept 5–6 hours per night. 8% of men and 18% of women complained of difficulty getting to sleep and 23% and 53% were slow to become fully awake. Significant negative correlations were found between OSI and anxiety scores ($r=-0·246$; $p=0·02$) and between OSI and depression ($r=-0·363$; $p=0·001$), but none between alcohol or drug use and anxiety or occupational stress.

This study shows that most of the house officers surveyed drink excessive amounts of alcohol; many use cannabis and take other illicit drugs. Alcohol drinking had increased in both men and women, compared with when they were second-year medical students; mean (SD) 19·6 (13·1) units/week; range 2–67, median 18 for men; 11·8 (9·0) units/week, range 1–43, median 10 for women. High scores for anxiety and mental ill-health were related to work pressures, but unrelated to the use of alcohol or illicit drugs. These results are comparable with our previous studies of 3075 UK university students from all faculties[1] and of 785 second-year medical students from seven UK medical schools.[5] Both these student populations showed high levels of alchol consumption and drug use and high anxiety scores unrelated to alcohol or drug use.

It is unlikely that these lifestyles apply only to house officers in the north east of England. The current drinking habits, illicit drug use and stress in some junior doctors is of concern, not only for their own well being, but also how they may affect patient care. Is it possible to reduce the stress of house officers? Should routine or random drug and alchol screening programmes be considered? There is no evidence that such schemes would be workable or appropriate in the UK National Health Service, but mandatory urine screening is undertaken in the UK army and some UK industries, and for doctors in the USA.

	Men n=39	Women n=51	Total n=90
***Alcohol (units/week)**			
Mean (SD)	28·9 (20·1)	19·9 (13·5)	23·7 (17·2)
Median (range)	24·5 (1–84)	16·5 (1–60)	21 (1–84)
No alcohol	3 (7·7%)	3 (5·9%)	6 (6·7%)
†Alcohol drinkers	n=36	n=48	n=84
Low risk level	14 (38·9%)	19 (39·6%)	33 (39·3%)
Medium-high risk level	18 (50·0%)	23 (47·9%)	41 (48·8%)
Hazardous level	4 (11·1%)	6 (12·5%)	10 (11·9%)
Binge drinking	9 (25·0%)	14 (29·2%)	23 (27·4%)
Cannabis (current user)	14 (35·9%)	10 (19·5%)	24 (26·7%)
Weekly	4 (10·3%)	2 (3·9%)	6 (6·7%)
Monthly	2 (5·1%)	2 (3·9%)	4 (4·4%)
Very occasionally	8 (20·5%)	6 (11·7%)	14 (15·6%)
HAD (anxiety)	n=39	n=50	n=89
Mean (SD); range	5·4 (3·0); 1–13	6·8 (3·6); 0–15	6·2 (3·4); 0–15
≥8	8 (20·6%)	23 (46·0%)	31 (34·8%)
HAD (depression)	n=39	n=50	n=89
Mean (SD); range	2·5 (3·0); 0–15	3·2 (2·7); 0–11	2·9 (2·8); 0–15
≥8	1 (2·6)	4 (8·0)	5 (5·6)
§General health questionnaire score >4	10 (25·6%)	22 (43·1%)	32 (35·6%)
‡Job satisfaction component of OSI			
Mean (SD)	80·8 (15·8)	76·0 (14·8)	78·1 (15·3)
Range (median)	47–117 (80)	48–110 (76)	47–117 (78)

*Alcohol units: 1 pint strong beer/lager=3 units; 1 pintordinary beer/lager=2 units; 1 glass wine=1 unit; 1 measure of spirits=1 unit (1 UK pint=0·57 L, 1 UK measure of spirit=25·0 mL in England, 35·0 mL in Scotland). †Low <22 units (men), <15 units (women); medium 22–50 units (men), 15–35 units (women); hazardous >50 units (men), >35 units (women).[4] Binge drinking, drinking more than half the recommended low-risk amount in a single session. ‡The job satisfaction scale has 22 units, each scored on a six-point Likert scale (score range 22–132). The higher the score means the more the respondent is satisfied with his/her job. §The GHQ is a measure of psychological morbidity and is scored 0–30. Higher scores imply greater morbidity and an individual with a score of >4 is regarded as a probable case of unspecified psychiatric disorder.

Alcohol, illicit drug use and measures of anxiety and stress in house officers

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