

Short Reports

Do chronic cigarette smokers forget people's names?

There is evidence that cigarette smoking encourages the formation of generalised atherosclerosis.^{1,2} This could impair arterial blood supply to the brain and thus cause a functional deficiency that would show up on psychometric testing. We have just completed a controlled study concerned with this question.

Subjects, methods, and results

Ten addresses were randomly selected by specially trained interviewers in each of 11 different geographical areas of Edinburgh. When there was no response or a potential subject declined to participate a neighbour was randomly substituted. From this pool of 110 subjects a colleague blindly matched two groups of 37 subjects each, one group comprising smokers, the other non-smokers. The groups were matched for verbal intelligence, perceptual aptitude, age, sex, educational level, social class, and consumption of alcohol (table). Data on minor psychiatric symptoms, neuroticism, and extraversion were available but not used in the group matching procedure. Nevertheless, the groups did not differ significantly on these variables (table).

Comparison of group of smokers with matched group of non-smokers

Variable	Smokers	Non-smokers	Difference
Daily cigarette intake	20 (range 3-35)	Nil	—
Duration of smoking (years)	27.5 (range 3-40)	—	—
Age (years)	47.5	49.73	NS
Sex ratio (F:M)	2.36:1	3.11:1	NS
Educational level (years)	12.64	12.62	NS
Social class (by occupation)	2.73	2.60	NS
Duration of drinking (years)	27	29.5	NS
Weekly ethanol intake (equivalent grams)	16	16	NS
Intelligence quotient (by MHV)	108.2	112.4	NS
Perceptual aptitude (errors, by SB)	5.2(8.5)	4.3(6.6)	NS
Psychiatric symptom score (by MHQ)	21.5 (11.5)	19.4 (11.9)	NS
Neuroticism (by EPI)	12.5 (4.9)	11.2 (4.6)	NS
Extraversion (by EPI)	16 (4.5)	14.7 (5.3)	NS

MHV = Mill Hill vocabulary test. SB = Stanford-Binet intelligence scale, block counting subtest. MHQ = Middlesex Hospital questionnaire. EPI = Eynsenck personality inventory. NS = Not statistically significant.

The memory test required the subjects to remember the names of unknown people. This test was chosen because in surveys using the Broadbent Cognitive Failures Questionnaire complaints about remembering names were the most common. Each subject was shown 12 colour photographs of individuals (six males, six females). Each photograph was viewed for three seconds with a three-second interval between each. Full names were read each time. The names were commonplace—for example, Rob Laing. Each face-name pair was presented thrice randomly. Subjects were warned before and after the three presentations that they would be required to match the correct name to the applicable face after an interval of 10 minutes. In the interval the subject was occupied with other unrelated mental tasks. The photographs were then placed before the subject, who was provided with 36 name labels, 12 of which were correct. Smokers were tested under their normal smoking conditions. All subjects were allowed unlimited time to match the names to faces. The score was the number of faces correctly named. Test reliability, estimated by correlating alternate test forms on the same subjects after an hour, was 0.88. Test stability, after five months, was 0.77.

The non-smokers scored a mean (\pm SD) of 8.81 \pm 2.74, and the smokers a mean of 6.73 \pm 2.92. The difference is highly significant ($P < 0.005$). Non-smokers completed the matching on average about 10 seconds faster than the smokers, but this was not statistically significant ($P > 0.2$). Extraverts were the least persistent in both groups.

Discussion

An inferior memory for names connected to faces significantly differentiated smokers from non-smokers. This finding needs

replication. It is interpreted as an indirect side effect of chronic cigarette smoking. Its duration could be ascertained by further research with ex-smokers. The lack of a difference in extraversion between the groups, which is contrary to the findings of other studies, may reflect the possibility that the psychological homogeneity of non-smokers is starting to change as a result of continuous health campaigns. Reports from the non-smoking participants in the study tend to strengthen this line of reasoning. Three unquestionably extraverted women resolved never to smoke as a result of television health education programmes and government health warnings. Two men extraverts resolved similarly after close relatives had died from respiratory disease related to smoking. Alternatively, the lack of a difference in extraversion could be an artefact of matching the groups for consumption of alcohol, which is also related to extraversion.

The following research interviewers, medical students of Edinburgh University, assisted by collecting about half the data. Robert G Catto, David J Jardine, William G Martin, K G Nicholson, Geoffrey Smith, Carol Sneddon, and G S Twaddie.

¹ US Surgeon General's Advisory Committee on Smoking and Health, *Smoking and Health: Report*. Public Health Service Publication No 1103. US Department of Health, Education and Welfare, Washington DC, 1964.

² US Department of Health, Education, and Welfare, *The Health Consequences of Smoking. A Public Health Service Review*, Public Health Service Publication No 1696. Washington DC, 1967.

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Cholelithiasis: a lesson in applied physiology

The sequence of stasis and infection was exemplified in an opium addict at the lower end of his common bile duct. Detection of the pathogenic mechanism and institution of acceptable treatment provided a lesson in applied physiology in gastroenterology and neurology.

Case report

A 64-year-old man who had been an opium addict for 50 years developed hepatomegaly and acute fever. The laboratory reported a serum alkaline phosphatase concentration of 365 μ mol/min/l (40 King-Armstrong units) and white cell count of $16.6 \times 10^9/l$ (neutrophils 87%, lymphocytes 13%). Computerised tomography showed a dilated biliary system. Laparotomy showed generalised cholangitis and a gall stone at Vater's ampulla. Cholelithotomy was performed and a T tube inserted. The postoperative course is summarised in the figure.

He demanded morphia and pethidine incessantly. Retrograde cholangiography showed tight closure of Oddi's sphincter, which opened after prolonged delay and increase of injection pressure. Clamping of the T tube was followed by relapse of fever. Removal of the T tube led to such a profuse external flow of bile that colostomy bags had to be used to collect the discharge. The tract failed to heal. Carter's food test¹ augmented external bile drainage, indicating absence of sphincter relaxation with meals. Culture of discharged bile repeatedly yielded *Escherichia coli* of the same pattern of sensitivity.

At the second laparotomy the segment of common bile duct between the opening of the T tube tract and the tightly closed sphincter of Oddi was found to be filled with pus. The pus was aspirated and a second T tube inserted. After operation external bile drainage continued to be profuse. Raising the collecting bag to create a head of pressure of 25 cm bile—that is,

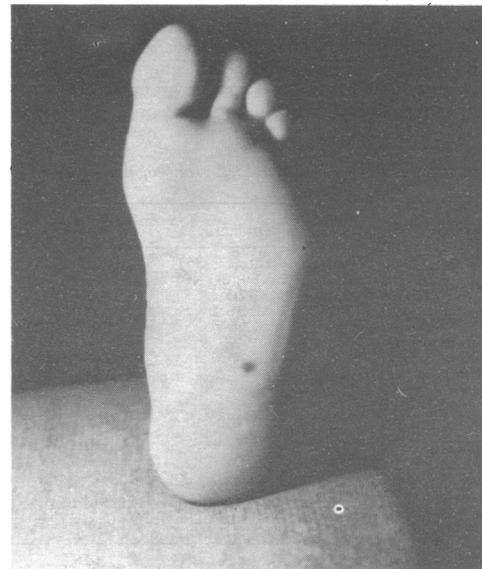
An unusual case of non-malignant skin hyperpigmentation

The diagnosis of malignant melanoma, confirmed or suspected, usually provokes fear because of its sinister reputation. It presents as a flat, brown-black, well-defined nodule or plaque which may contain raised, crusted, or ulcerated areas. In the tropics favourite locations of malignant melanomas are the face and feet, especially the soles and periungual regions.¹ Not all melanomas, however, are malignant, and not all discrete areas of hyperpigmentation in skin are melanomas.

Earwigs are found in great numbers in tropical Africa. Apart from pinching human skin they have never been incriminated in causing human disease. The following case history adds another cause of skin hyperpigmentation to the differential diagnosis of malignant melanoma.

Case report

A 27-year-old missionary working in a hospital in Niger Republic, West Africa, presented on 18 October 1978 with a dark pigmented lesion on the sole of his left foot. He had noticed it for the first time that day. On examination the lesion measured 7.5 mm × 4 mm, was dark brown in its centre with paler edges, and appeared to fan out into the surrounding skin (see figure). The



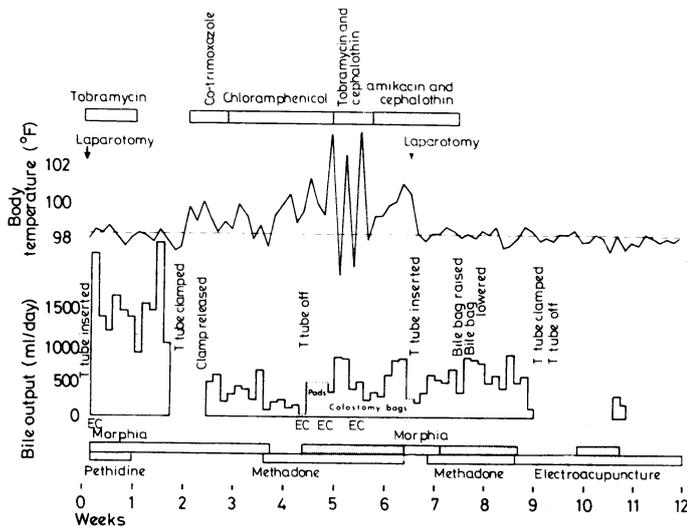
Earwig stain on sole of foot.

lesion was not raised or scabbed. There was no itching or bleeding. There were no satellite lesions and no regional lymphadenopathy. Malignant melanoma was provisionally diagnosed by two doctors, and arrangements were made to fly the patient home for treatment (there being no histopathology service available locally).

The patient, understanding some of the implications of the diagnosis, was unable to sleep the following night. During the night he happened to notice a stain inside his shoe corresponding with that on the sole of his foot. On inspecting the sock worn the previous day he found the identical stain and a dead earwig lying over it. Plans for evacuation from Africa were cancelled. The stained skin was observed at regular intervals, and over three weeks it faded and disappeared.

Comment

During October and November, towards the end of the rainy season and harvest time in Niger, hordes of earwigs infest buildings. These ubiquitous insects are renowned for penetrating cracks and crevices and have been found inside refrigerators, in the lids of unopened jars of jam, and inside the earpieces of stethoscopes. But they have never been implicated in human disease except for the pinch caused by the cerci, on the hind end of the insect, which may draw blood. Nor is anything recorded about the pigment which is extruded when an earwig is squashed. This brown oily pigment has powerful staining properties and is difficult to erase.



Postoperative course of opium addict with cholangitis and later choledochitis. EC = *E coli* grown from bile culture that was sensitive to tobramycin, amikacin, co-trimoxazole, chloramphenicol and cephalothin. Stippled area represents the time when patient was secretly taking opium.

above the normal opening pressure of the sphincter of Oddi²—merely caused bile leakage from the T tube wound. After the second operation the patient did not ask for narcotic replacement. We then discovered that he had been taking a secret supply of opium after he found methadone to be ineffective in producing euphoria. We tried to produce “morphia in the brain” by conchal electroacupuncture, and the resulting euphoria was satisfactory. Systemic narcotics were stopped and the wound closed. As we lessened the intensity of electric stimulation the wound reopened, and we discovered that the patient had secretly resumed taking opium. He was kept under continuous surveillance to make sure that he took no opium for two weeks. He recovered completely.

Comment

Localised choledochitis in this patient resulted from a combination of pre-existing cholangitis seeding infection, choledochostomy diverting secreted antibiotics from the lower common bile duct, and opium-induced sphincter hypertonía causing stasis. Reflux of bile from the infected segment accounted for the persistence of *E coli* in bile cultures despite its in-vitro sensitivity to the antibiotics administered systemically.

This patient was determined to continue enjoying opium, and narcotic withdrawal was rejected. His secret intake of opium in hospital would not have been detected if his demand for narcotics had been undiminished in the later part of his hospital course. Anticholinergics did not adequately relax his sphincter of Oddi.³

The logical treatment was to use a narcotic that was potent on the brain but inactive on the sphincter. Though acupuncture has been reported to ameliorate the syndrome of opiate withdrawal,⁴ neither the mechanism of action nor the quality of euphoria produced was known. Recent studies have shown that electroacupuncture releases endomorphins from the brain⁵; these resemble morphine in pharmacological action. Whether or how endomorphins are absorbed from the brain into the blood stream is unknown. In our patient we wanted to release endomorphins directly into the central nervous system, and the results seemed to justify our therapeutic exercise.

¹ Carter, R F, *Surgery, Gynecology, and Obstetrics*, 1936, **63**, 163.

² Bergh, G S, *Surgery*, 1942, **11**, 299.

³ Jaffe, J H, and Martin, W R, *Pharmacological Basis of Therapeutics*, 254, New York, Macmillan, 1975.

⁴ Wen, H L, and Cheung, S Y C, *Modern Medicine of Asia*, 1973, **9**, 138.

⁵ Sjölund, B, Terenius, L, and Eriksson, M, *Acta Physiologica Scandinavica*, 1977, **100**, 382.

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