A bizarre postoperative wound infection

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Infection with *Pasteurella multocida* is a common sequel to dog and cat bites. We report on a woman who developed a postoperative infection after encouraging her pet dog to lick her wound.

Case report

A 73 year old woman was admitted for a routine hemiarthroplasty to her osteoarthritic left knee. Under antibiotic cover with intravenous cephradine a Sled type prosthesis was inserted under aseptic conditions, and the wound was closed. As an inpatient she had no problems with the wound, and she was discharged on the 10th day after the operation.

Three months later she was readmitted with an inflamed wound. The wound was explored under general anaesthesia and 20 ml of yellow pus was drained from an abscess cavity. There seemed to be no communication of the cavity with the joint. The wound was washed out with copious amounts of saline and was closed over a corrugated drain. Culture of the pus yielded *P multocida* that was sensitive to penicillin, and treatment with penicillin was started intravenously. The wound healed uneventfully. On requestioning she admitted that three weeks before admission the lower end of the wound had broken down, and, to promote healing, she had encouraged her dog to lick the wound.

Comment

P multocida infections commonly result from animal bites[1,2]; one case was reported in which a dog bite resulted in septicaemic infection of a prosthetic aortic graft,[3] but there are no reported cases of postoperative wound infections from such a source. Our case, therefore, seems unique. It shows that open wounds should be kept covered in the presence of animals and illustrates the dangers of allowing family pets to lick the skin.

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Snoring every night as a risk factor for myocardial infarction: a case-control study

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Several recent reports have examined snoring as a risk factor for cardiovascular disease,[1] but none have focused on snoring as a risk factor for myocardial infarction. We therefore performed our case-control study to assess the risk.

Subjects, methods, and results

We studied 50 patients (41 men, nine women; mean age 63·8 (range 38-83)) presenting with their first acute myocardial infarction. All were admitted to a coronary care unit within 24 hours of the onset of their symptoms and all lived in Bologna. Diagnosis was based on typical symptoms, electrocardiographic features, and serial changes in the activity of cardiac enzymes.

Two controls were matched for age (±2 years) and sex with each patient. The first control was the next patient admitted with an acute illness unrelated to the risk factors considered here. All lived in Bologna, and 96% agreed to participate. The second control was randomly chosen from official records of the inhabitants of Bologna, and 76% of the initial sample selected agreed to participate. People who had previously had a myocardial infarction were excluded.

Cases and controls were included only if they lived with a cohabitee who was reliable in witnessing their snoring. We tried to match the cohabitee relations of the patients and the controls, and concordance was obtained in 38 of them. A questionnaire asking about the subject's snoring was given to each cohabitee.

Subjects were classified as "every night snorers" if it was reported that they had snored every night or nearly every night for at least two years. Information on smoking and alcohol consumption was obtained directly from the subjects. Treatments for hypertension and diabetes were noted, and body mass index was calculated.

With 50 patients and 100 controls our study had >0·80 power of detecting a relative risk of ≥2·5 at 0·05 level of significance considering rate of exposure of 0·15 among the general population. A comparison of body mass index among the three groups was made by analysis of variance; comparison between patients and each control group was made by McNemar's symmetry χ^2 test; and comparison of patients with both control groups was made by the Mantel-Haenszel test for multiple controls.

Factors found to be associated with myocardial infarction were entered as dichotomous variables in a multiple logistic regression analysis. Logistic models were expressed as an odds ratio, and 95% confidence intervals were calculated for the odds ratio from the formula: $\exp(\beta \geq 1{\cdot}96 \times SE(\beta))$, where β is the β coefficient in the logistic model. Goodness of fit for

Comparison of risk factors for myocardial infarction between 50 patients and two matched control groups. Values are numbers or odds ratio (95% confidence intervals)

Risk factor	Patients	Hospital controls	Population controls	Odds ratios: Patients *v* hospital controls*	Patients *v* population controls*	Patients *v* both controls**	Patients *v* both controls***
Smoking	36	17	17	6·75 (2·06 to 28·88)	5·75 (1·72 to 24·96)	6·25 (2·85 to 13·68)	5·75 (1·27 to 25·62)
Hypertension	20	11	13	2·14 (0·75 to 6·60)	2·20 (0·62 to 8·82)	2·16 (0·93 to 5·01)	4·72 (1·04 to 21·23)
Diabetes	6	6	3	1·20 (0·27 to 5·60)	2·00 (0·36 to 4·80)	1·50 (0·52 to 4·29)	–
Alcohol consumption ≥50 g/day	18	6	6	5·66 (1·40 to 34·88)	4·25 (1·21 to 19·07)	4·85 (2·19 to 10·75)	4·33 (0·98 to 19·14)
Snoring every night	20	9	8	2·00 (0·74 to 5·70)	2·83 (0·96 to 9·34)	2·35 (1·18 to 4·67)	4·40 (1·11 to 17·98)

*McNemar's test. **Mantel-Haenszel test. ***Multiple logistic regression analysis.

the logistic model was tested according to Hosmer and Lemeshow.

There were no significant differences between the two control groups with any of the risk factors considered. Body mass index was 25·55 (SD 3·59) in patients; 26·20 (3·63) in the general population controls; and 25·47 (5·15) in hospital controls. Comparing patients with each control group we found a significantly increased risk of myocardial infarction among patients who snored every night (table). Multiple logistic regression analysis showed that this association was independent of other risk factors.

Discussion

We chose to see if there was a correlation between the risk of having a myocardial infarction and snoring every night because sleep apnoea is probably more common in people who snore. A study among the general population found that out of 40 people who snored every night 25 had a sleep apnoea index over 5.[2] People who snore every night might be at an increased risk of having a myocardial infarction because they are more commonly affected by sleep apnoea, which might put chronic stress on the cardiovascular system. Snoring in itself might, however, cause cardiovascular stress as shown by Lugaresi *et al.*[3] Cross sectional and longitudinal studies are required to verify whether there is a causal association between snoring, sleep apnoea, and myocardial infarction. If such an association is confirmed then some cases of myocardial infarction might be prevented by treatment of snoring and sleep apnoea.[4,5]

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Headache caused by caffeine withdrawal among moderate coffee drinkers switched from ordinary to decaffeinated coffee: a 12 week double blind trial

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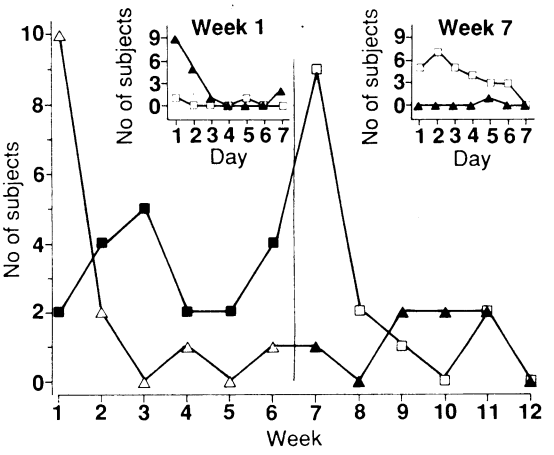
Caffeine withdrawal could be an important but often overlooked cause of headache. A study of 205 hospital inpatients found a significantly higher caffeine consumption among patients who reported postoperative headaches than those who did not (mean consumption of caffeine 528 *v* 339 mg/day).[1] Information from controlled trials on caffeine withdrawal, however, is limited: published studies have used high doses or short observation periods or have incompletely controlled caffeine intake.[2,3] We report on the withdrawal effect of caffeine in healthy subjects who habitually consumed four to six cups of coffee a day. The main results of this study, which was designed to compare the effects of ordinary and decaffeinated filter coffee on blood pressure and serum cholesterol concentration, are reported elsewhere.[4,5]

Subjects, methods, and results

We recruited subjects through stories in local newspapers. Of 150 applicants, 45 (23 women and 22 men, aged 25 to 45) met all the criteria for eligibility: aged 17-45, apparently healthy, serum cholesterol concentration <6·7 mmol/l, systolic blood pressure <140 mm Hg, abstinence from smoking for the past year, not taking drugs or oral contraceptives, not taking a prescribed diet, not pregnant, not working night shifts, and habitually consuming four to six cups of filter coffee a day as measured by a three day dietary record. After being matched for sex, blood pressure, and age the subjects were randomly allocated to receive either five cups of coffee (84 mg caffeine/cup) each day for six weeks followed by five cups of decaffeinated coffee (3 mg caffeine/cup) for the next six weeks (n=23) or the reverse treatment (n=22).[4] Blank coffee cartons were labelled with the subjects' names by two people not participating in the trial; both subjects and investigators were blind to the type of coffee being consumed.[4] Subjects were unaware whether they were being switched between ordinary and decaffeinated coffee.

Subjects were prohibited from consuming tea or other products containing caffeine, except for small amounts of chocolate. The mean caffeine intakes were 435 mg/day for ordinary coffee treatment and 30 mg/day for decaffeinated. Once a week subjects rated how easily they had fallen asleep the previous night, by placing a cross on a 100 mm bar scale running from with great difficulty (0) to very easily (100). Subjects recorded any sign of illness, and daily guesses about which type of coffee they were receiving.

Thirty eight of the 45 subjects did not realise when the coffee was switched to decaffeinated. Nineteen subjects recorded more complaints about headache during their first week of taking decaffeinated coffee compared with the mean number of complaints they recorded during the 11 other weeks (figure); five subjects recorded fewer complaints, and 21 showed no



Prevalence of headaches among subjects who habitually consumed four to six cups of coffee a day and were switched from ordinary to decaffeinated coffee at start of study (week 1; △) or week 7 (□). ▲, ■ Indicates consumption of ordinary coffee