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Admissions to hospital with farm accidents

Patient No	Age (years)	Nature of accident	Duration of admission (days)
1	16	Attempted to mount moving tractor; fractured femur	17
2	21	Injury to leg from cow kick; large haematoma	5
3	27	Knocked over by sheep; fractured tibia	15
4	30	Arm crushed by tractor; fractured radius	7
5	33	Chainsaw kickback to chest; deep lacerations	3
6	47	Fall in yard; fractured radius	6
7	50	Struck by falling tree; fractured tibia	3
8	54	Chainsaw injury to foot; fractured metatarsal	2
9	55	Gored by bull; gash to thigh, chest injuries	6
10	56	Fall from horse; diastasis symphysis pubis	15
11	61	Foot crushed by tractor; fractured phalanges	6
12	63	Fell off silage tank; fractured calcaneus	6
13	65	Knocked over by dogs; fractured radius	1
14	65	Crushed by falling bales; fractured rib and back injury	9
15	67	Fell causing head injury	1

livestock accounted for 62 injuries, resulting in four admissions and 10 fractures; cattle accounted for 37 of these injuries. Forty seven accidents were machinery related, including 19 associated with tractors; of these 19, seven were associated with falls from or dismounting from tractors, four with steering wheel spin injuries to the hand, four with being crushed or run over, and one with an overturning tractor. There were six falls from farm bikes. Falls in farmyards and outbuildings led to four fractures and one admission. Other causes included lacerations and punctures (19) and falling objects (six).

Only six of the 28 serious injuries were reported under the RIDDOR scheme, and only four of 159 injuries likely to cause at least three days' incapacity for work were reported.

Comment

Apart from human suffering, the economic implications of agricultural accidents in terms of loss of working hours are clearly important. Why has agriculture such a poor safety record? Most farms are small working units, often geographically remote, operating within close financial constraints and compared with other industries relatively inaccessible to safety education and enforcement. Farmers do many different tasks with a variety of hazardous machinery. Use of old equipment without recent safety features is commonplace. Uncooperative livestock have to be handled in difficult weather conditions, and at busy times of the farming year the working hours are long. Safety procedures are often neglected to maintain productivity.[3,4] On average, each agricultural site receives a visit from the Health and Safety Executive inspector once every seven years (E Friend, personal communication).

If only a quarter of the serious injuries are reported under the current system the true serious injury rate for agriculture is probably close to 600/100 000 employees. Clearly, the farm environment still offers considerable potential for death and injury despite an overall downward trend in fatal accidents in recent decades.[5] Further efforts are required in safety education and legislation.

We thank Mr H R Davies for allowing us to report on his patients and Sisters Marks and Evans, Helen Solloway, and all the other reception, nursing, and medical staff in the accident and emergency department of West Wales Hospital, Carmarthen.

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ABO blood group and gall stone disease

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ABO blood groups have been shown to be associated not only with various diseases but with metabolic processes, including cholesterol metabolism.[1] ABO genes also seem to be differently distributed in various socioeconomic, geographical, and ethnic groups.[2]

Epidemiological investigations into gall stone disease have shown that its incidence varies according to age, sex, racial background, and geographical area. Other postulated factors include parity, obesity, and diet.[3] We conducted a study to analyse whether ABO blood group is related to symptomatic gall stone disease.

Patients, methods, and results

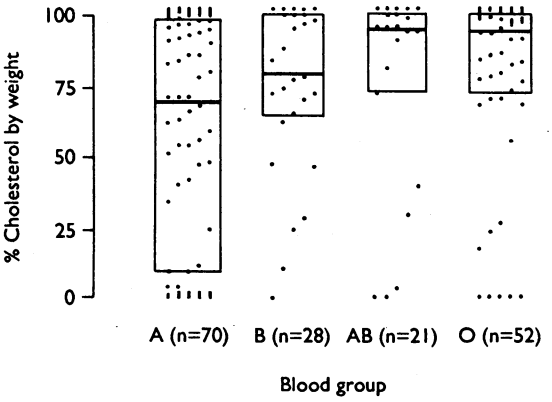
We studied 171 consecutive patients with symptomatic gall stone disease (39 men, 132 women; mean age 56 (range 21-87) years) attending our hospital for cholecystectomy between August 1989 and February 1990. All the patients were clinically examined, and detailed questionnaires were administered about standard risk factors for gall bladder disease. Gall stones were examined for cholesterol content by infrared spectrometry after cholecystectomy. ABO blood groups were determined by standard agglutination techniques.

The distribution of ABO blood groups was essentially similar to the distribution in Finland as a whole, with a predominance of groups A (44%) and O (31%) and a higher prevalence of group B (17%) than in most Western countries. ABO blood groups did not differ significantly with respect to age, sex, body mass index, drug regimens, or diet, and the racial background was homogeneous. The groups had similar serum cholesterol, triglyceride, and bile acids concentrations; results of liver function tests; and blood pressures (data not shown). The incidence of coronary heart disease, however, was significantly higher in blood group A (23/70, 33%), than in groups B (5/28, 18%), AB (4/21, 19%), and O (10/52, 19%) ($p<0.05$).

Infrared spectrometry of the stones showed that 20% (14) of patients in group A but only 4% (one), 10% (two), 10% (five) of patients in groups B, AB, and O had no cholesterol in their gall stones (figure). Patients with blood group A also had more stones (mean=34, median=6) than those with groups B (mean=21, median=4) or O (mean=17, median=2); patients with group AB had a mean of 30 stones (median=5·5). The median total volume of gall stones, was significantly different between group A (3·4 cm^3) and group O (5·2 cm^3) ($p<0.05$, Kruskal-Wallis test).

Comment

Although there seemed to be no association between ABO blood group and the prevalence of symptomatic gall stone disease patients with blood group A had more stones with less than 25% cholesterol or no cholesterol than those with other groups. Group A patients tended to have more numerous gall stones of



Gall stone cholesterol content by ABO phenotype in 171 patients with symptomatic gall stone disease. Data points, medians, and interquartile ranges are shown (p=0·02 for difference between groups (Kruskal-Wallis test))

smaller size. The incidence of cholesterol stones (49%) in group A was lower than the average for Western countries (70-80%).

Abnormalities in the metabolism of lipids, biliary cholesterol supersaturation, and serum lipid concentrations may have a role in lithogenesis.[1 4] Though total serum cholesterol concentrations did not vary according to ABO phenotype, there was more coronary heart disease among group A patients.

Since previously established risk factors for gall stone disease were evenly distributed among the different blood groups, such factors should not have appreciably confounded the associations reported. However, the mechanism responsible for blood type associations remains unclear. ABO antigens have previously been shown to be associated with development of cancer and cellular differentiation,[5] and ABO blood group determinants and the pattern of epithelial cell glycosylation may also alter the basic events associated with lithogenesis.

The present hypothesis should be considered when evaluating factors triggering gall stone formation in humans and when studying the genetic determinants of cholesterol cholelithiasis.

We thank Dr Lauri H J Lajunen, department of chemistry, University of Oulu, for help with the infrared spectrometric analyses.

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Utilisation of medical care by abused women

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The typical injury pattern of battered wives described by Gayford and others includes bruises, lacerations, fractures, and haematoma.[1 2] Most studies of abused women are not based on women seeking hospital care but on women in shelters. Although the medical services have an important mission in treating the traumatic injuries arising from physical abuse, abused wives appearing as inpatients as a result of non-traumatic diseases, and the medicosocial problems accompanying family violence, have been given little attention. This paper aims at describing the utilisation of inpatient medical care not only for traumatic injuries but also for medical, surgical, gynaecological, and undefined diseases, by abused women and controls in different age groups.

Subjects, methods, and results

During an eight month period in 1983-4 an emergency room project at the Huddinge Hospital attempted to identify and support abused women seeking hospital care. A total of 117 women, 58 of whom were admitted as inpatients, reported injuries resulting from domestic violence by their husband or partner. The mean age at the time of the battering was 33 (SD 2, range 16-75) years.

The abused women were compared with a control group selected from the population register and matched pairwise for age and geographical area in Stockholm with the group of 117 battered women. The number of hospital admissions during the period from 10 years before to eight years after the battering (1973-1991) were obtained from Stockholm County Council's computer files. The initial 58 admissions of the abused women, as well as all admissions for childbirth, were excluded.

During the 18 year study period there were 468 admissions as inpatients owing to surgical, gynaecological, medical, traumatic, and unspecified disorders, 354 among abused women and 114 among controls. Seventy (20%) abused women and 18 (16%) controls were admitted because of traumatic injuries. Table I shows that the battered women had more admissions in all age groups than the controls, especially in the age span 30-39.

Eighty five of the abused women (73%) had been admitted to the hospital at least once, compared with 50 of the control subjects (43%). The highest number of admissions was 56 in the abused group; 32 abused women (38%) had been admitted five times or more. In the control group one woman had been admitted 12 times and three women (6%) had been admitted five times or more.

Admissions to hospital for traumatic and non-traumatic diseases in abused women and controls of different age groups

Age (years)	No of admissions for traumatic diseases		No of admissions for non-traumatic diseases	
	Abused women	Controls	Abused women	Controls
<25	5	5	47	29
25-29	5	4	49	14
30-34	16	4	69	13
35-39	12	1	61	17
>40	32	4	58	23
Total	70	18	284	96

Comment

Abused women are high consumers of hospital care. This high utilisation of medical care could reflect the strife and violence going on at home, and traumatic injuries may not be the only consequences of this violence. As domestic violence often goes on for several years, the overutilisation of care might be expected to