Heart attack, stroke, diabetes, and hypertension in West Indians, Asians, and whites in Birmingham, England

Hypertension is more common in black Americans than whites and is also common in Jamaica.^{1 2} In Jamaica heart attacks are infrequent, and mortality in blacks in Britain may also be lower.³ The prevalence and complications of hypertension among West Indians in Britain have not yet been systematically examined. After observing that heart attacks seemed unduly uncommon in this group we examined admissions to Dudley Road Hospital over five years and compared rates for heart attack, stroke, hypertension, and diabetes among the three main ethnic groups.

Number (%) of admissions for all causes (excluding obstetrics and gynaecology) compared with heart attack, stroke, diabetes, and hypertension among ethnic groups aged 30 to 59 years during 1974 to 1978 inclusive

Reason for admission	Place of birth				Total
	Europe and UK	West Indies	India, Pakistan, Bangladesh	Other/not known	
Men					
All admissions	11 157 (71.4)	1227 (7.9)	2289 (14.7)	951 (6.1)	15 624
Heart attack	513 (73.7)	30 (4.3)	109 (15.7)	44 (6.3)	696*
Stroke	322 (71.1)	47 (10.4)	51 (11.2)	33 (7.3)	435†
Diabetes	206 (50.0)	73 (17.7)	115 (27.9)‡	18 (4.4)	412‡
Hypertension	294 (55.8)	121 (23.0)	80 (15.2)	32 (6.0)	527‡
Women					
All admissions	9235 (76.7)	1048 (8.7)	1156 (9.6)	604 (5.0)	12 043
Heart attack	103 (87.3)	6 (4.0)	10 (6.7)	3 (2.0)	149§
Stroke	234 (74.5)	43 (13.7)	21 (6.7)	16 (5.1)	314*
Diabetes	180 (50.1)	90 (25.1)	66 (18.4)*	23 (6.4)	359‡
Hypertension	199 (52.2)	135 (35.4)	35 (9.2)	12 (3.2)	381‡

* p<0.01. † p<0.05. ‡ p<0.001. § p<0.02. (χ² tests of significance)

Patients, methods, and results

Between 1974 and 1978 27 667 men and women aged 30 to 59 years were admitted and were coded by the Hospital Activity Analysis (HAA) system for diagnosis and place of birth. We noted the frequency of admissions of patients born in Europe ("whites"); those born in the West Indies; and those from India, Pakistan, and Bangladesh ("Asian") for all causes and compared these with the frequency of admissions for heart attack (ICD code 410-4109), stroke (ICD code 430-438), hypertension (ICD code 400-404), and diabetes (ICD code 250). The expected numbers of West Indian and Asian patients admitted with these diagnoses were calculated and compared with the actual numbers (table). The number of heart attacks among West Indians was about half what was expected while the number among Asians was as expected; strokes were much more common in West Indian women and slightly more common in West Indian men. Admissions for diabetes were more common in both Asians and West Indians, but hypertension was more common only in West Indians.

Comment

These results show important differences in admission rates between the three ethnic groups in Birmingham despite similar home backgrounds. Despite the higher incidence of hypertension among West Indians they had fewer heart attacks, although they had proportionally more strokes. The HAA coding system we used has in general proved free of errors for definitive diagnoses,⁴ although errors are found in the coding of non-specific diagnoses such as "viral infections" or "gastroenteritis." We have checked and confirmed its reliability in this study by a manual examination of heart attack admissions in 1976.

What is the explanation of these ethnic differences? Differences in other coronary risk factors remain to be examined, but in a survey of local factory employees smoking rates were equally high among West Indians and whites (J K Cruickshank and D G Beevers, unpublished observations). Both ethnic minorities may be subjected to greater "urban stress" than whites. If so, they clearly respond differently since Asians do not share the relative immunity to heart attack. Perhaps a clue to this apparent protection from heart attack enjoyed by West Indians comes from Jamaica itself. Ashcroft and Desai,⁵ in the only long-term follow-up study from the West Indies, found that

mortality was unrelated to blood pressure below 180 mm Hg systolic and 110 mm diastolic (phase IV). This exciting finding needs further prospective study among West Indians in Britain.

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- ⁴ George LM, Maddock K. Accuracy of hospital activity notifications for infectious diseases. *Br Med J* 1979;ii:1332-9.
- ⁵ Ashcroft MT, Desai P. Blood pressure and mortality in a rural Jamaican community. *Lancet* 1978;ii:1167-70.

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University Department of Medicine, Dudley Road Hospital, Birmingham, West Midlands Regional Health Authority, and the University of Birmingham

J K CRUICKSHANK, BSC, MRCP, research fellow (formerly lecturer in medicine, University of West Indies)
D G BEEVERS, MD, MRCP, senior lecturer
VERDELLE L OSBOURNE, AAMS, research assistant
R A HAYNES, AMR, regional HAA officer
J C R CORLETT, medical student
S SELBY, medical student

Bone-marrow necrosis and Q fever

Bone-marrow necrosis is rarely diagnosed during life. It has been reported in malignancy and sickle-cell disease.¹ Although it has been described in association with infection, this was based on the findings at necropsy.² We report a case of antemortem bone-marrow necrosis in association with serologically diagnosed Q fever.

Case report

A 42-year-old marine fitter was admitted to a nearby hospital with severe bone pain in the lumbosacral region. Three weeks before admission he had had transient right-sided pleuritic chest pain due to basal consolidation. On admission he had back pain, tenderness, and residual signs of right basal consolidation. His haemoglobin concentration was 12.6 g/dl and white blood cell count 15.7 × 10⁹/l (15 700/mm³). He was given a week's course of ampicillin and was transfused because his haemoglobin concentration had dropped to 7.5 g/dl without evidence of bleeding or haemolysis. A repeat blood film was noted to be leucoerythroblastic, and he was transferred to our unit. He still had backache and was unwell, jaundiced, and feverish. Examination showed only generalised bone tenderness and signs of resolving pneumonia.