

**OBSERVATIONS ON THE MORTALITY FROM ISCHEMIC HEART DISEASE IN SASKATCHEWAN, CANADA (1974-1985)**

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We studied trends in the incidence of fatal and nonfatal acute myocardial infarction (AMI) in Saskatchewan. Record-linkage technology was applied to hospital discharge files and nationally maintained mortality files from 1974, 1981 and 1985. A random sample of hospital charts was abstracted for validation of the discharge diagnosis. Over the time period studied, we found that while mortality has been decreasing, the incidence of AMI has levelled. In modelling the cumulative survival rates of hospitalized AMI patients, the data assumed a negative exponential curve, dropping sharply during the first 2 weeks post-MI, and levelling off around the fifth week. Compared with deaths occurring in-hospital or after discharge, the greatest decrease has occurred in deaths prior to any admission which likely represent cases of sudden death. Females have a higher in-hospital mortality than males which is insignificant for ages 25 to 54 years but significant in the 55 to 74 year age group. No significant difference has been observed in the proportion of definite and possible AMI over time. Out-of-hospital deaths, remain the focus of attention in explaining the continuing decline in mortality from ischemic heart disease in the province with the lowest mortality in Canada.

**DOES HUMAN IMMUNODEFICIENCY VIRUS INFECTION ALTER THE COURSE OF INFECTIVE ENDOCARDITIS ?**

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The charts of 56 infective endocarditis patients, in whom the Human immunodeficiency (HIV) status was known, were reviewed. By HIV testing pts were divided into HIV positive (+) (27/56, 48%), and negative (-) (29/56, 52%) groups. There were 20 males, 9 females among the (-), 17 males and 10 females among the (+) pts. Of the intravenous drug abusers 54% (26/48) were (+). Mean age was  $37 \pm 4$  years. The valves involved were 6 tricuspid, 9 mitral, 1 aortic, 1 mitral valve prosthesis in the (-), and 12 tricuspid, 7 mitral, 3 aortic in the (+) pts. The extent of total valve involvement was similar in both groups (p=n.s.). Organisms involved were largely methicillin sensitive Staphylococcus Aureus (12/29, 41% (-); 9/27, 33% (+)). Clinically dyspnea (7/29, 24% (-); 15/27, 55% (+); p<0.02), and weight loss (4/29, 14% (-); 14/27, 52% (+); p<0.01) were more frequent in the (+) group. Clinical signs which were more commonly noted in the (+) group were rales & rhonchi (15/29, 52% (-); 21/27, 78% (+); p<0.007). Pericardial effusion by echocardiography (4/29, 13% (-); 9/27, 33% (+); p<0.01) was more frequent in the (+). In-hospital mortality (13% (-); 11% (+)) was similar in both groups (p=n.s.). Signs of LV dysfunction, were more frequent in the (+) group (p<0.0001).

**CONCLUSIONS:**

1. In-hospital mortality among endocarditis pts is not altered by the positive HIV status.
2. Evidence of LV dysfunction was more frequent in the (+) group although the extent of valvular involvement was similar. This suggests the possibility of myocardial involvement by the HIV infection as a cause of congestive heart failure beyond that of valvular insufficiency.

**A COMPARATIVE COHORT ANALYSIS OF ISCHAEMIC HEART DISEASE MORTALITY TRENDS IN THE USA AND ENGLAND & WALES, 1954-84.**  
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International Classification of Disease (ICD) revision (R) & diagnostic transfer (DT) has led to uncertainty as to whether England & Wales (EMW) ischaemic heart disease (IHD) mortality has begun to fall, as it has in the USA. To compare countries by cohort analysis, mortality rates by 5yr age group (0-4 to 80-84yrs) were obtained for ICD codes 420, 422, 434.1-4 & 440-7 (6th & 7th R), and 410-4, 425, 427.0&2, 428 & 400-4 (8th & 9th R) at 5yr intervals (1954 to 1984) from death certificate data. Crude & age-specific rates were plotted vs. age by birth cohort & by yr of death, vs. yr of birth by age of death and vs. yr (as absolute values & proportional change), using raw IHD codes (420, 410-4), and code combinations to allow for ICD R's and DT. Following a steady rise, in EMW a fall in female rates began in the early 1980's lagging that in males by 5yrs, and that in USA by 10yrs where it was synchronous in both sexes. US peak age-specific rates were up to 56% greater (8687 vs. 5551 /100,000) than respective EMW rates. Current US female rates are similar to, and US male rates falling below, those of EMW. Proportional increase was greater in EMW and greatest in the elderly & young. Cohort analysis showed a marked age effect with earlier onset in males, and a period effect occurring 10 yrs earlier in the USA. Both US sexes show gradual attenuation of age effect with each successive 5yr birth cohort from 1889 to 1929. Such attenuation was barely detectable in EMW. ICD code combination suggests DT in the USA was less & from myocardial degeneration & hypertension, but in EMW was mainly from the former. EMW combinations had marked age-specific heterogeneity, implying true young & middle aged rate rises in the past have been exaggerated by DT in the elderly.

**COMPARISONS OF CARE PROVIDED BY SPECIALISTS VS. GENERALISTS IN THE MEDICAL ICU/CCU.**

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To identify differences in patients (PTS) and delivery of care provided by cardiopulmonary specialists (SPEC) vs. generalists (GEN), we studied 507 PTS admitted with chest pain to the ICU/CCU's of 2 community hospitals (HOSP). Data collection included past/ present illnesses, utilization (UTIL) of HOSP beds and tests, complications, interventions, and outcomes in HOSP and 8 mo later. The 216 PTS (43%) cared for by SPEC were more often male (63% vs 48%), had more prior coronary disease (65% vs 55%), and arrhythmias (12% vs 6%) (all p<0.03); SPEC PTS had more ventricular tachycardia (VT), recurrent ischemia (ISCH), CPR, and cardioversion (CARDIO), but fewer echocardiograms (ECHO) and gated scans (GBPS). ICU and HOSP lengths of stay (ULOS and HLOS) were similar for SPEC vs GEN as were MI rate (35 vs 30%), HOSP mortality (3.8 vs 7.9%), urgent readmission (URG) (21 vs 18%) and late mortality (4.8 vs 4.0%). Multivariate analysis suggested that differences in test use

	GEN	SPEC	P-val	HOSP UTIL	were due to severity of illness and local practice styles -
VT	7%	12%	.09		not speciality training.
ISCH	6%	10%	.09		PTS cared for by SPEC had more prior
CPR	6%	10%	.10		heart disease and higher complica-
CARDIO	5%	8%	.10		tions/interventions. However, HOSP
ECHO	53%	36%	.001		and test UTIL were more dependent on
GBPS	21%	11%	.002		local practice style than level of
ULOS	2.2	2.4	NS		specialty training.
HLOS	8.5	8.2	NS		