Review of the Journals

AIDS

Incidence of Symptoms and AIDS in 146 Swedish Hemophiliacs and Blood Transfusion Recipients Infected with Human Immunodeficiency Virus.


The aim of this prospective study was to determine the incubation time from infection with the human immunodeficiency virus (HIV) to the development of AIDS. The investigators attempted to get this epidemiologically important data by studying the time to onset of first clinical symptoms and to the diagnosis of AIDS in all Swedish hemophiliacs infected with HIV and in all infected recipients of blood from a group of Swedish donors positive for HIV. The exact time of infection was known for each of the transfusion recipients. The time of infection for each hemophiliac was estimated by serial HIV testing to be midway between the last negative and first positive test.

Transfusion recipients developed clinical symptoms and AIDS at a much more rapid date than did the hemophiliacs. At three years approximately 30% of the transfusion recipients had developed symptoms and about half of these had been diagnosed as having AIDS. Over the same period only 8% of the hemophiliacs had symptoms and none had been diagnosed as having the disease. Five years into the study the diagnosis of AIDS was made in 30% of the transfusion recipients but in only 5% of the hemophiliacs.

The article contains a detailed discussion of the statistical aspects of estimation of time of infection. The authors do not suggest a reason for the difference in rate of development of AIDS in the two groups. They do comment that although statistically insignificant, there was a suggestion that the incidence of AIDS in the various hemophilia treatment centers was directly proportional to the average age of the patients in that group. The hemophiliacs on average were in their 30's. The average age of the transfusion recipients was 55 years.

Conclusions are restricted by the small numbers of patients involved in the study but the data is presented with the usual thoroughness for which the Swedes are noted.

Build

Mortality by Relative Weight and Exercise


This paper analyzed mortality in relation to relative weight and exercise utilizing data collected from the American Cancer Society's Cancer Prevention Study 2. This included data on 868,620 lives who had no history of cancer, heart disease, or stroke and who were not sick at the start of the study. This paper looked at 7,305 deaths that were reported in the first 2 years of the study. The mortality curves for both men and women for all causes of death were U shaped rather than J shaped as in the 1979 Build Study. This was felt to be due to lingering illness in the study underweights who were not eliminated by the study exclusion definitions. The following table summarizes the results:

<table>
<thead>
<tr>
<th>Sex/Age</th>
<th>80-90</th>
<th>90-104</th>
<th>105-119</th>
<th>120-129</th>
<th>130+</th>
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</thead>
<tbody>
<tr>
<td>Men</td>
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<td></td>
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<tr>
<td>40-49</td>
<td>197</td>
<td>115</td>
<td>100</td>
<td>121</td>
<td>178</td>
</tr>
<tr>
<td>50-59</td>
<td>143</td>
<td>115</td>
<td>100</td>
<td>112</td>
<td>126</td>
</tr>
<tr>
<td>60-69</td>
<td>221</td>
<td>134</td>
<td>100</td>
<td>116</td>
<td>110</td>
</tr>
<tr>
<td>70-79</td>
<td>197</td>
<td>121</td>
<td>100</td>
<td>102</td>
<td>137</td>
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<tr>
<td>80+</td>
<td>189</td>
<td>147</td>
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<td>97</td>
<td>98</td>
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<tr>
<td>Women</td>
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<td>40-49</td>
<td>137</td>
<td>81</td>
<td>100</td>
<td>137</td>
<td>156</td>
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<td>142</td>
<td>100</td>
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<tr>
<td>80+</td>
<td>211</td>
<td>141</td>
<td>100</td>
<td>96</td>
<td>110</td>
</tr>
</tbody>
</table>

*Relative weight = individual's weight divided by average weight of persons of same sex, age and height.

Overall the SMR for men was 187% for those 20% or more underweight and 171% for those 40% or more overweight. In females the comparable SMR's were 186% and 178%. The current study results demonstrate that persons of average weight have the lowest mortality. This is in contrast to the 1979 Build Study and first American Cancer Society Study which demonstrated that the lowest mortality ratios were in those 5-10% below average weight. This study shows that the 10-20% underweight group have overall SMR's of 116% in the case of males and 126% in the case of females.

As one would expect smokers had much higher SMR's than non-smokers for all causes of death. The degree of exercise reported by subjects was inversely related to mortality and independent of smoking habits.

Endocrinology

Are Continuing Studies of Metabolic Control and Microvascular Complications in Insulin Dependent Diabetes Mellitus Justified?


The issue of tight diabetic control and its effect on mortality and prevention of complications has been a much followed issue within our industry. This Sounding Board/Review summarizes recent trials of diabetes control and complications and its bibliography provides an excellent reference on what has been published to date regarding tight blood glucose control and its various benefits and risks. The DCCT is in the midst of a five to seven year follow-up to address primary prevention and secondary intervention issues. The upcoming results will likely help us revise much of our current thinking and the background laid in this article will be necessary for its proper interpretation.

Microalbuminuria as a Predictor of Vascular Disease in Non-diabetic subjects.


The paper, as a part of the overall Islington Diabetes Survey conducted in England, studied the relation between urinary
albumin excretion rate (AER) and vascular disease amongst cases selected from a large diabetes screening project. Coronary heart disease was found in 54 of 164 (32.9%) subjects with albumin excretion rates of 20 ug/min or less and in 14 of 19 (74%) with albumin excretion rates above this. Peripheral vascular disease was present in 9.7% of subject with AER < 20 ug/min and in 44% of those with AER > 20 ug/min. Logistic regression analysis of many variables including diabetes, impaired glucose tolerance, systolic and diastolic blood pressures, smoking, age, sex, ethnic origin and body mass index, demonstrated the independence of the relation of a urinary albumin excretion rate of greater than 20 ug/min to coronary heart disease.

**Oncology**

Genetic Alterations During Colorectal-Tumor Development


The authors looked for evidence of genetic alterations in colon adenomas and carcinomas in 172 specimens to see if a model of step-wise colonic cancer tumorgenesis could be established. Genetic alterations, already known to occur in some colonic carcinomas (the ras-gene mutation and allelic deletions in chromosomes 5,17,18) were looked for in adenomas from patients with and without familial polyposis and in resected carcinomas.

47% of the carcinomas contained a ras-gene mutation. 42-57% of the larger (>1cm), villous, or high grade-dysplastic adenomas also had a ras-gene. Deletions in chromosomes 5,17,18 depended on the stage of development of the tumor. 0% of small adenomas had chromosome 5 deletions, 47% of dysplastic adenomas had chromosome 18 deletions, and 75% of carcinomas had chromosome 17 deletions. The findings support the model of accumulated genetic alterations of several tumor-suppressor genes on a dominantly acting oncogene as underlying colorectal tumor genesis.

Common Inheritance of Susceptibility to Colonic Adenomatous Polyps and Associated Colorectal Cancers.


The authors studied 670 persons in 34 kindreds to determine how frequently colorectal adenomas and cancers result from an inherited susceptibility. They performed proctosigmoidoscopic examinations on relatives of individuals with an adenomatous polyp and on families where there was a cluster of colonic cancer. Adenomas were found in 78 of 407 (19%) of relatives of the probands and in 32 of 263 (12%) of the spouses (p <0.02). When compared to the expected frequency of adenomatous polyps in the population, these results suggest that an underlying genetic susceptibility is present in the majority of persons with common colonic adenomatous polyps and colorectal cancers. They recommend that first degree relatives of patients with colorectal cancer should be screened for colonic tumors.

**Rehabilitation**

Efficacy of Cardiac Rehabilitation Services (with Emphasis on Patients after Myocardial Infarction).


This is a review article on the effects of cardiac rehabilitation on work capacity, psychosocial functioning, risk factor modification, morbidity and mortality, and cardiac function of individuals who have survived acute myocardial infarction. Some of the conclusions from the review are:

1. Supervised cardiac exercise programs appear to be safe for the average patient following infarction. In the predominately sedentary patient who had low intensity recreational and occupational pursuits, resumption of premorbid activities can be achieved without a formal program.

2. A program of supervised physical exercise can be expected to increase a patient's maximal exercise capacity after infarction by an average of 15-25% above spontaneous recovery.

3. Results of the few randomized controlled trials that have looked at the effect of exercise on psychological well being after myocardial infarction have been inconclusive.

4. Many randomized trials have shown a trend toward reduced mortality in patients in rehabilitation programs following myocardial infarction. Differences in mortality however, have been small, as have sample sizes, so no definitive evidence exists that cardiac rehabilitation prolongs life after myocardial infarction.

5. Short-term exercise conditioning of 6 months or less has not been found to improve myocardial performance or perfusion in patients with coronary artery disease. Longer term, high intensity, progressive exercise training on the other hand, may improve myocardial performance in highly motivated patients.

**Stroke**

Transient Ischemic Attacks and Normal Cerebral Angiograms: A Follow-Up Study


Sixty-four patients (age 24 to 72 years) hospitalized between 1980 and 1984 with a diagnosis of transient ischemic attack (TIA), but normal cerebral angiography, were followed for an average of 4.4 years for the development of cerebrovascular or cardiovascular disease. On admission 11 of the 64 had CT scan evidence of cerebral infarction; echocardiography was abnormal in 9 of 61 patients; Holter monitoring showed abnormalities in 8 of 45 patients; and a resting EKG was abnormal in 3 of 64 patients. During follow-up twelve patients had a cerebrovascular episode and 11 had a recurrent cardiovascular event. 12 of the 46 patients with a normal cardiovascular evaluation initially had a recurrent event, whereas 10 of 18 patients with abnormal cardiac findings initially had recurrent events (p <0.01). The authors conclude that a thorough cardiac evaluation is important in determining the prognosis in patients with TIA's and normal cerebral angiography.

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