Review of the Journals

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Cardiology


The objective was to determine the clinical correlates and prognostic significance of early postinfarction angina with and without electrocardiographic (ECG) changes.

631 consecutive patients with myocardial infarction were considered for enrollment. Patients were excluded if they died in the acute phase (n=69), had severe congestive heart failure (n=23), had contraindications to coronary angiography (n=23), or if they refused (n=67). 449 patients were enrolled (84% men), mean age 54 ± 9 years, with acute myocardial infarction defined by >_2 acute episodes of chest pain lasting >30 minutes, a diagnostic increase in serum creatine kinase, and new Q waves on serial ECGs. 291 patients (65%) had a Q-wave myocardial infarction, 136 patients had a past history of hypertension, 158, angina; and 103, myocardial infarction.

Postinfarction angina was defined as chest pain occurring >24 h after admission, judged as ischemic in origin by 2 independent assessors. ECGs were done during and after chest pain episodes. Changes were defined as transient ST-segment depression or elevation, transient inversion, or pseudonormalization of a negative T-wave. Follow-up after angiography was for a mean of 14 months.

3 groups of patients were identified: Group 1 had no angina (n=285, 63%); group 2 had angina without ST-T changes (n=85,19%); group 3 had angina with ST-T changes (n=79, 18%). The groups were similar for smoking, sex, infarct site, and Killip class. Groups 1 to 3 showed gradients (all P<0.05) for history of previous angina (28% vs 42% vs 53%), number of diseased coronary arteries (1.6 vs 1.9 vs 2.1), and myocardial segments jeopardized by stenotic lesions (1.2 vs 1.5 vs 1.9).

Groups 1 and 2 patients had similar and better early and late outcomes than group 3 patients: For groups 1, 2 and 3, infarct extension occurred during hospitalization in 2%, 3.5%, 28% of patients, respectively (P<0.001). The 2-year survival rates were 96%, 90% and 83%, respectively (P=0.02); rates for survival without recurrent myocardial infarction were 80%, 78%, and 67%, respectively (P=0.004).

Patients with early postinfarction angina and ST-T changes have a poorer prognosis than patients with angina alone, whose prognosis is similar to that of patients with no angina.

Cardiology


Although the association of serum lipid levels with the risk of atherosclerosis is well-recognized, the relation between these levels and restenosis after coronary angioplasty is uncertain. This study examines 186 patients enrolled in a trial of fish oil for prevention of restenosis. Fasting lipid levels (cholesterol, high density lipoprotein (HDL) cholesterol and triglycerides) were measured before angioplasty, and in 90 patients repeated at 6-month follow-up. Fifty-nine patients (32%) developed clinical restenosis confirmed by angiography. Patients who went on to develop restenosis underwent multivessel angioplasty (p<0.05) and were more likely to be on lipid-lowering therapy at baseline (27 vs 13%; p<0.05). In addition, they had higher baseline cholesterol/HDL ratios (6.5 ± 2.2 vs 5.9 ± 2.0; p<0.05) and triglyceride levels (233 ± 210 vs 183 ± 112 mg/dl; p<0.05). Multiple logistic regression analysis confirmed cholesterol/HDL ratios at baseline (p=0.021) and follow-up (p=0.0008) to be independent predictors of risk for restenosis. Using these data, regression lines have been developed that predict risk of restenosis based on type of procedure and on lipid values. These results suggest that serum lipid levels may be associated with the risk of clinical restenosis after coronary angioplasty.

Cardiology


In a prospective study 38 patients (35 men, 3 women; median age 56 [37-71] years) with known coronary heart disease in whom conventional thallium-201 exercise-redistribution myocardial scintigraphy (ERMS) had demonstrated segments with diminished activity, thallium-201 was again injected (re-injection scintigraphy). Its purpose was to test whether in myocardial
segments with persisting diminished radioactivity improved activity after re-injection provided evidence for still viable myocardium. Seven myocardial segments were evaluated in each patient, i.e. a total of 266 segments. Activity in the conventional ERMS was diminished in 94 of the abnormal segments, but improved on re-injection in 21 of the 94 segment (22.3%). Nine of the 38 patients (23.7%) benefitted from the re-injection: only scar tissue without any viable myocardium would have been diagnosed by conventional ERMS in four patients, while extent and spread of ischemic myocardium was better visualized in five.

Cardiology


The objective was to review the reported cases of myocardial infarction temporally related to recreational and topical anesthetic use of cocaine, with special regard for underlying etiologic factors in patients subsequently found to have normal coronary arteries.

Personal records of three cases and a comprehensive literature review using MEDLINE and supplemental by Index Medicus and the bibliographies of case reports were used.

A total of 114 cases of cocaine-induced myocardial infarction were identified. The coronary anatomy was defined by angiography or autopsy in 92 patients, 38% of whom had normal coronary arteries. In these 35 patients (average age, 32; range, 21 to 60 years), myocardial infarction typically involved the anterior left ventricular wall (77%). Moderate cigarette smoking with one or fewer associated coronary risk factors was prevalent (68%). Focal coronary vasospasm was shown convincingly in only two cases. Intracoronary thrombus was initially found on 9 of 11 angiograms (82%) done within 12 hours of the myocardial infarction. Experimental evidence suggests that cocaine has direct and indirect sympathomimetic effects on vascular smooth muscle, attenuates endothelium vasodilator capacity, exerts a potent depressant effect on cardiac myocytes, and promotes atherogenesis.

Cocaine-induced myocardial infarction in patients with normal coronary arteries probably involves adrenergically mediated increases in myocardial oxygen consumption, vasoconstriction of large epicardial arteries or small coronary resistance vessels, and coronary thrombosis. Accelerated atherosclerosis and impairment of endothelium vasodilator function may occur after chronic cocaine use.

Endocrinology


The objective was to provide information on the nature, prevalence, and severity of sleep apnea in patients with acromegaly.

Fifty-three patients with acromegaly were consecutively referred: 33 patients were referred because of clinical suspicion of sleep apnea and 20 patients were referred without suspected apnea.

Sleep studies as well as growth hormone and insulin-like growth factor 1 (IGF-1) measurements were done.

Thirty-one patients (93%; 95% CI, 85% to 100%) referred because of suspicion of sleep apnea had sleep apnea compared with 12 sleep (60%; CI, 37% to 83%) referred without suspected sleep apnea. Patients with sleep apnea did not have biochemical evidence of increased disease activity (random growth hormone, 12.7 ± 4.4 μg/L; mean growth hormone at 24-hour sampling, 10.8 ± 8.4 μg/L; IGF-1, 90.0 ± 7.5 nmol/L) compared with patients without sleep apnea (random growth hormone, 14.2 ± 4.9 μg/L, P>0.2; mean growth hormone, 12.4 ± 3.5 μg/L, P>0.2; IGF-1, 90.0 ± 10.0 nmol/L, P>0.2). Central sleep apnea was the predominant type of apnea in 33% (CI, 18% to 47%) of patients and was associated with higher random growth hormone and IGF-1 levels than was obstructive apnea (random growth hormone, 23.4 ± 3.9 compared with 8.8 ± 3.1 μg/L, P<0.001; IGF-1, 126 ± 17.5 compared with 72.5 ± 7.5 nmol/L, P<0.01).

Sleep apnea is common in acromegaly. The rate of central sleep apnea was unexpectedly high in patients with acromegaly, and biochemical evidence of increased disease activity was associated with the presence of central apnea rather than with the degree of sleep apnea. Altered respiratory control is a possible mechanism producing sleep apnea in acromegaly.

Endocrinology

Risk factors for non-insulin-dependent diabetes mellitus (NIDDM) were assessed in a population of 5,042 middle-aged white men, initially nondiabetic, who were followed 3 yr. The subjects participants in the Paris Prospective Study I. Sixty-three subjects developed diabetes during the follow-up. Plasma glucose concentration in the years before the occurrence of the disease was a major factor. Subjects with normal glucose tolerance but elevated fasting plasma glucose exhibited a similar risk of developing NIDDM as did subjects classified as having impaired glucose tolerance on the basis of 2-h postload glucose. In a multiple logistic regression, a high fasting plasma insulin concentration and a low 2-h plasma insulin concentration after a glucose load in association with a high body mass index were independent predictors of conversion to NIDDM from impaired glucose tolerance. Previously, this result had been found only in Nauruans, Pima Indians, and Japanese. This demonstrates for the first time in a white population that a high fasting and low 2-h insulin concentration is predictive of conversion to NIDDM from impaired glucose tolerance.

Endocrinology


Thirty-seven patients with adequate data, representative of a group of 62 patients with functioning grafts (that is, insulin-independent) at 2 years after transplantation. The 62 patients came from a total of 178 patients in the University of Minnesota series as of July 1987, for a 2-year success rate of 35% (95% CI, 27.8% to 41.8%). These patients were compared to two diabetic control groups (18 patients with IDDM under standard insulin treatment in a university diabetic clinic and 11 patients with IDDM whose pancreas grafts had failed) and to two nondiabetic groups (14 nondiabetic patients who received immunosuppressive drugs after kidney transplantation and 196 healthy control subjects).

Glycosylated hemoglobin was measured by the high-pressure liquid chromatography method, as total A1 (Hb A1) and the A1C subfraction (Hb A1C); results were expressed as a percentage of total hemoglobin.

Before pancreas transplantation, the 37 patients in the study group had a mean Hb A1 of 10.8%, consistent with moderate to marked hyperglycemia and not statistically different from the levels in the diabetic control groups. All 37 patients had values above the therapeutic target range of 5.4% to 7.4%. However, at 1 and 2 years after transplantation, the mean Hb A1 value had fallen sharply to 6.7% and 6.5%, respectively, well within target range (CI of the difference, 3.4% to 4.8%; P<0.001). These levels did not differ from the mean Hb A1 in the nondiabetic kidney transplant recipients but were slightly above the 6.2% value for the 196 healthy controls (CI of the difference at 1 year, 0.2% to 0.8%). Serial values were available on 6 subjects for 5 years; these values were all well within target range. As expected, Hb A1C values were parallel to those of Hb A1.

Pancreas transplantation, in successful cases, lowered glycosylated hemoglobin to normal or near-normal levels that were sustained for as long as 5 years. These results compare favorably with patients on standard treatment, and also with those in similar patients on intensive control.

Lipids/Cardiology


To investigate the relation between lipids and angiographic coronary artery disease (CAD) in women, fasting lipid profiles were obtained on 108 women undergoing coronary angiography (group I). CAD, defined as ≥25% luminal diameter narrowing in a major coronary artery, was present in 57 (53%). Neither serum total cholesterol nor triglyceride levels correlated with the presence of CAD. Mean total/high-density lipoprotein (HDL) cholesterol ratio was higher among women with than without CAD (5.5 ± 0.3 vs 4.2 ± 0.2, p<0.0001). Multiple regression analyses identified a higher total/HDL cholesterol ratio as the variable most predictive of the presence (p<0.001), extent (number of narrowed arteries) (p<0.0001), and severity (% maximum stenosis) (p<0.001) of CAD. Age and lack of estrogen use were also independently associated with the presence of CAD, age and low-density lipoprotein cholesterol level were additional indicators of extent, and age was the only other discriminator of severity of CAD.

In 56 women with total cholesterol <200 mg/dl (group II), mean total/HDL cholesterol ratio was higher in women with (n=24) than without CAD (4.3 ± 0.2 vs 3.5 ± 0.2, p = 0.01). Higher total/HDL cholesterol ratio was the variable most predictive of the presence of CAD (p=0.01), and the lone variable associated with severity (p<0.001) after adjustment for other risk factors. Age was independently associated with presence and extent, and hypertension was also independently related to extent. Thus, among these women, total/HDL cho-
Lipids/Cardiology


The objective was to determine the relation between serum cholesterol levels and the long-term risk for reinfarction, death from coronary heart disease, and all-cause mortality in persons who recover from myocardial infarction.

The patients were men (n=260) and women (n=114), 33 to 88 years of age (mean age, 62 years) who had a history of myocardial infarction.

A complete physical examination, including electrocardiographic evaluation, blood pressure measurement, height and weight measurements, determination of smoking habits, and casual determinations of blood glucose and serum cholesterol, was done approximately 1 year after recovery from initial myocardial infarction. Patients were followed after infarction for the occurrence of reinfarction or death (mean follow-up, 10.5 years; range, 0.8 to 31.6 years).

The mean cholesterol level after infarction was 5.21 mmol/L (242.8 mg/dL); 20% of patients had levels below 5.17 mmol/L (200 mg/dL), and 22% had levels of 7.11 mmol/L (275 mg/dL) or more. Compared with patients who had cholesterol levels below 5.17 mmol/L, patients with levels of 7.11 mmol/L or more were at increased risk for reinfarction (relative risk, 3.8; 95% CI, 1.6 to 8.7) death from coronary heart disease (relative risk, 3.8; 95% CI, 1.6 to 8.7) death from coronary heart disease (relative risk, 2.6; CI 1.4 to 4.8), and all-cause mortality (relative risk, 1.9; CI, 1.2 to 2.9) based on multivariate Cox regression analyses adjusted for other coronary risk factors. Intermediate cholesterol levels (5.17 mmol/L to 7.11 mmol/L) were generally not associated with increased risk. The association between elevated serum cholesterol and increased risk was strongest in men; however, elevated cholesterol levels were found to be most strongly related to death from coronary disease and to all-cause mortality in persons who were 65 years of age or more.

Patients who have recovered from a myocardial infarction and who have high cholesterol levels are at an increased long-term risk for reinfarction, death from coronary heart disease, and all-cause mortality. These results confirm the prognostic value of cholesterol levels measured after myocardial infarction and support the role of lipid management in this population.

Neurology


First-degree relatives of patients with Alzheimer's disease (AD) are at greater risk for dementia when compared with the relatives of patients with Parkinson's disease. This may indicate that the risk of dementia in these relatives is not specific to AD or that these studies are biased. A family history and vital status information was obtained on each first-degree relative of patients attending a clinic and in a group of recruited healthy elderly subjects. Patients formed two groups; probable AD and other forms of dementia or cognitive disorders without dementia. The odds of dementia in first-degree relatives did not differ between patients groups. The odds of dementia in relatives of patients with probable AD or other forms of dementia was six times that in the relatives of the healthy elderly subjects. The cumulative incidence of dementia increased with age in the first-degree relatives of all subjects. Approximately 50% of the first-degree relatives of patients with AD were demented by age 91 years, but almost the same number of the other patient group's relatives were demented as well. That figure was never reached in the healthy elderly subject's relatives. Because the risk of dementia in first-degree relatives of patients with AD was similar to that for patients with other disorders, the possibility that this is the result of selection and information biases cannot be excluded. This investigation implies that the increased risk of dementia may not be specific to relatives of patients with AD, the risk may also be increased in first-degree relatives with other neurologic disorders.

Neurology


The impact of nonrheumatic atrial fibrillation, hypertension, coronary heart disease, and cardiac failure on stroke incidence was examined in 5,070 participants in the Framingham Study after 34 years of follow-up. Compared with subjects free of these conditions, the age-adjusted incidence of stroke was more than doubled in the presence of coronary heart disease (p<0.001)
and more than trebled in the presence of hypertension (p<0.001). There was a more than fourfold excess of stroke in subjects with cardiac failure (p<0.001) and a near fivefold excess when atrial fibrillation was present (p<0.001). In persons with coronary heart disease or cardiac failure, atrial fibrillation doubled the stroke risk in men and trebled the risk in women. With increasing age the effects of hypertension, coronary heart disease, and cardiac failure on the risk of stroke became progressively weaker (p<0.05). Advancing age, however, did not reduce the significant impact of atrial fibrillation. For persons aged 80-89 years, atrial fibrillation was the sole cardiovascular condition to exert an independent effect on stroke incidence (p<0.001). The attributable risk of stroke for all cardiovascular contributors decreased with age except for atrial fibrillation, for which the attributable risk increased significantly (p<0.01), rising from 1.5% for those aged 50-59 years to 23.5% for those aged 80-89 years. While these findings highlight the impact of each cardiovascular condition on the risk of stroke, the data suggest that the elderly are particularly vulnerable to stroke when atrial fibrillation is present. The powerful independent effect of atrial fibrillation reported here is in accord with the findings of recent randomized clinical trials in which >50% of stroke events were prevented by warfarin anticoagulation.

Oncology


The authors reviewed 231 patients who developed recurrent disease 1 to 218 months after surgical therapy for clinical stage I cutaneous melanoma. Metastatic lesions amenable to surgery, including visceral recurrences, were resected. Adjuvant systemic chemotherapy/immunotherapy or regional hyperthermic perfusion was added in patients with unresected disease. Local irradiation was employed for nonresectable brain or other isolated symptomatic metastases. The overall 5-year survival rate after initial recurrence was 36%. In patients with soft tissue or nodal recurrence, the 5-year survival rates were 49% and 38%, respectively; six (11%) of 53 patients whose initial recurrence was in a visceral organ achieved prolonged remission. Primary lesion anatomic site, thickness, pathologic type, and interval from initial therapy to recurrence were unrelated to survival. Significant prognostic factors included the site of initial metastasis, stage of primary disease, and the successful complete eradication of gross disease by surgical excision or intensive chemotherapy.

Oncology


The objective was to determine if body fat distribution affected endometrial cancer risk in a case-control study. Forty consecutive women newly diagnosed with endometrial cancer and 40 controls matched for matched for age and Quetelet index.

Anthropometric measurements were taken for the abdomen, thigh, suprailliac, subscapular, biceps, and triceps skin fold thicknesses; waist and hip circumferences, weight, and height. Relative risks for endometrial cancer were calculated according to these anthropometric measurements.

Case patients with endometrial cancer had significantly greater waist-to-hip circumference ratios (P<0.001), Abdomen-to-thigh skin fold ratios (P<0.01), and suprailliac-to-thigh skin fold ratios (P=0.02) compared with control subjects matched for age and Quetelet index. The relative risk for endometrial cancer increased with an increasing waist-to-hip circumference ratio (≤1.14 = 1.0; >1.14 = 15.0), with an increasing abdomen-to-thigh skin fold ratio (<0.82 = 1.0; >0.82 = 5.0), and with an increasing suprailliac-to-thigh skin fold thickness ratio (<0.67 = 1.0; >0.67 = 3.50).

Upper-body fat localization is a significant risk factor for endometrial cancer in women matched for age and Quetelet index.

Oncology


Effective forms of treatment for acute lymphoblastic leukemia (ALL) in childhood now result in survival rates above 70% at five years, but the treatments are potentially carcinogenic. To determine the magnitude of this risk and identify possible risk factors for the development of second neoplasms, the authors studied a large cohort of children treated for ALL.

A retrospective cohort study of 9,720 children who had been given a diagnosis of ALL between June 1972 and August 1988 and had been treated according to the therapeutic protocols of the Children’s Cancer Study Group was undertaken. The median follow-up was 4.7
years (range, 2 months to 16 years). 43 second neoplasms occurred among the children in the cohort, including 24 neoplasms of the central nervous system, 10 new leukemias and lymphomas, and 9 other neoplasms. This represented a 7-fold excess of all cancers and a 22-fold excess of neoplasms of the central nervous system. The estimated cumulative proportion of children in whom a second neoplasm developed was 2.53% 15 years after diagnosis (95% confidence limits, 1.74% and 3.38%). An even higher risk, particularly of central nervous system tumors, was evident in children five years of age or less at the time of the diagnosis of ALL (P = 0.012). All central nervous system neoplasms developed in children who had previously undergone irradiation. There was no association with exposure to cyclophosphamide or anthracyclines.

There is a substantial excess of second neoplasms, especially of the central nervous system, among children treated for ALL. Children five years old or younger and those receiving radiation are at higher risk, especially for second tumors arising in the central nervous system.

Rheumatology


The objective was to identify predictors of survival in systemic sclerosis. An analysis of clinical and demographic characteristics of an inception cohort followed for an average of 5.2 years. Patients from 29 centers were referred between 1973 and 1977 to the Scleroderma Criteria Cooperation Study done by the Subcommittee for Scleroderma Criteria of the American College of Rheumatology.

264 patients with recently diagnosed definite systemic sclerosis were entered. Mean age was 49.1 years; study entry was a mean of 1.9 years after diagnosis and 5.7 years after the first symptoms of systemic sclerosis. 32 patients (12%) were lost to follow-up.

Outcome was determined on 133 variables. Information was collected from patients, their relatives, physicians, charts, death certificates, and autopsy reports. Deaths were categorized as definitely related to systemic sclerosis if there was a clear medical association with the disease.

2-year survival was <80%, 8.5-year survival was 50%, and 12-year survival was 30%. 89 deaths (68%) were definitely related to systemic sclerosis, with renal involvement predominating in the causes of death (39%). Patients with renal involvement (n=10) had the poorest median survival (3 months), followed by cardiac (n=15; median, 32 months), pulmonary (n=104; median, 78 months), gastrointestinal (n=84; median, 99 months), and no system involvement (n=51; median, 108 months). Using a survival tree model with Cox proportional hazards analysis, the variables predicting shortened survival were older age at study entry (>64 years; P<0.02); lower forced vital capacity (<80% predicted; P<0.001) and reduced carbon monoxide diffusion capacity (<50% predicted; P=0.01); higher blood urea nitrogen (>16 mg/dL; P<0.001); and lower hemoglobin (<11 g/dL) and lower total serum protein (<6 g/dL) (P<0.005 for both). Male sex or race did not predict poorer survival.

Several variables predict shortened survival in systemic sclerosis: older age, impaired lung or renal function, anemia, and decreased total serum protein.