1.P.143 *Terminalia arjuna* – the cardiovascular friendly plant

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Bark stem powder of *T. arjuna* has been reported to possess antianginal, diuretic, antioxidant, antiischemic and decongestive properties. We, therefore, studied its effect on anginal frequency, congestive heart failure, body mass index, waist hip ratio, blood pressure, echocardiographic left ventricular ejection fraction (LVEF) & left ventricular mass (LVM) in 12 postmyocardial infarction (MI) angina and/or ischemic cardiomyopathy patients (Group A) over a period of 3 months to 1 year. These patients were also on conventional treatment comprising of nitrates, aspirin and calcium channel blockers. Another 12 age, sex, body mass index and ECG matched patients (Group B) or post MI angina recieving only conventional treatment served as controls. Significant reduction in anginal frequency was noted in both groups (3.50 ± 1.98 to 1.08 ± 1.08 vs 3.10 ± 0.72 to 1.17 ± 0.84). However, only group A patients showed significant improvement in LVEF (42.25 ± 9.96 to 52.67 ± 12.32 vs 51.83 ± 5.99 to 49.83 ± 2.52) and reduction in LVM (159.1 ± 51.11 to 140.62 ± 55.65 vs 145.36 ± 54.23 to 160.78 ± 51.12) following 3 months of therapy. Prolonged administration of *T. arjuna* did not show any significant adverse effects. The ability of *T. arjuna* to improve LVEF and reduce LVM in CAD merits further evaluation.

1.P.144 Coronary heart disease prevention; How much can we expect from cholesterol-lowering therapy?

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Data from available intervention trials must be further explored in attempts to understand where most clinical benefit from cholesterol-lowering therapy can be expected.

Data from 7 primary and 9 secondary controlled positive and negative prevention trials reporting more than 50 cases of definite coronary heart disease (CHD) death or non-fatal myocardial infarction were included in meta-analyses. CHD events decreased significantly in primary ($p = 0.021$) as well as secondary ($p = 0.012$) trials but there were also significant differences between individual trials ($p < 0.02$). The mean percent reduction in total cholesterol (ΔTC%) explained about 70% of the variability in CHD (ΔCHD%). This relationship was exponential with progressively decreasing clinical benefit most evident above mean ΔTC% of about 15. Absolute TC at study endpoint explained about 45% of the difference in CHD incidence. Most clinical benefit was seen when TC was high. It increased exponentially with increasing TC. Little benefit could be expected from reductions <190 mg/dl (4.9 mmol/l). The average standardised benefit (ΔCHD%:ΔTC%) was about 2, but twice higher in the highest than in the lowest quartile of TC. A comparison with results from prospective epidemiological studies suggested that most of the CHD incidence, which could be expected from the TC achieved by intervention, had been recovered within the mean duration of the studies of 4–6 years. There was only insignificant 6 (primary prevention, $p = 0.950$) and 13 (secondary prevention, $p = 0.187$) % higher incidences among treated subjects.

Consequently, relative reductions >15% and absolute reductions <190 mg/dl (4.9 mmol/l) in TC provide little clinical benefit. Standardised benefit is 7 times higher for ΔTC% between 3–4 than between 25–26 and twice higher for high than for low absolute TC.

1.P.145 A follow-up report on mortality in the West of Scotland Coronary Prevention Study (WOSCOPS)

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WOSCOPS demonstrated that an average 4.9 years of treatment with pravastatin reduced the incidence of definite coronary heart disease (CHD) death or non-fatal myocardial infarction (NFMI) by 31%, with an associated 32% reduction in cardiovascular (CV) deaths or NFMI by 31% ($p = 0.0001$). There was an associated 32% reduction in CV deaths and a null effect on non-CV mortality, for a 22% reduction in all-cause mortality. WOS 2000 is the extended follow-up of WOSCOPS participants until the year 2000. Its aim is to support the hypothesis that pravastatin has continued benefits in CV mortality beyond the end of the study and that it has null effects on non-CV mortality and incident cancers. Key results will be reported at 1, 3, and 5 years post-study. Six-month and 1-year post-trial data are shown in the table. The 6-month mortality data further demonstrate the effect pravastatin has on reducing total mortality. As expected, the 1-year data emphasize the need for continued pravastatin therapy to obtain the desired CV benefits on a long-term basis. (Table key: placebo/pravastatin deaths (p value), risk reduction [95% CI])

Time	All Deaths	CV Deaths	Non-CV Deaths
End of study	135/106 (p = 0.051) 22% [0, 40]	73/50 (p = 0.033) 32% [3, 53]	62/56 (p = 0.54) 11% [−28, 38]
+6 mo	156/116 (p = 0.012) 26% [6, 42]	84/55 (p = 0.012) 35% [9, 54]	72/61 (p = 0.31) 16% [−18, 40]
+12 mo	175/146 (p = 0.085) 17% [−3, 34]	92/65 (p = 0.027) 30% [4, 49]	83/81 (p = 0.81) 4% [−31, 29]

1.P.146 Cholesterol reduction with pravastatin in CARE patients is beneficial irrespective of fasting glucose levels

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The Cholesterol and Recurrent Events (CARE) trial evaluated the benefit of pravastatin in post-myocardial infarction (MI) patients with average cholesterol levels (<240 mg/dl). The study population included 714 patients (17.2%) with a history of or newly diagnosed diabetes and 262 patients (6.3%) who showed impaired glucose intolerance (IGT). Because diabetes and IGT are major predictive risk factors for coronary heart disease (CHD) events, a CARE diabetic substudy was conducted. One prospectively planned objective was to determine whether there is a threshold level for increased risk of clinical endpoints relative to levels of fasting glucose (FBS). Fatal CHD, nonfatal MI, PTCA, and CABG were the events included in this analysis. A second objective was to investigate whether pravastatin treatment reduces recurrent events in patients with FBS above this threshold value. The incidence rate and relative risk of events rose with increasing FBS in both placebo and pravastatin groups. At FBS ≥ 120 mg/dl, the relative risk was double that of FBS ≤ 120 mg/dl. A 23% decrease in risk was seen with pravastatin treatment in patients with FBS ≤ 120 mg/dl ($p < 0.001$, CI 0.67, 0.89); there was a 26% decrease in relative risk in patients with FBS ≥ 120 ($p = 0.04$, CI 0.55, 0.99). An evaluation of attributable risk for patients with FBS ≤ 120 mg/dl revealed that pravastatin therapy prevented at least one event in 52 patients/1000 treated; treatment of patients with FBS ≥ 120 mg/dl prevented events in 89 patients/1000 treated. This analysis demonstrates that risk increases with increasing FBS level and that a threshold FBS ≥ 120 mg/dl is associated with double the risk for recurrent CHD events. Pravastatin therapy led to a 23%–26% event reduction irrespective of FBS levels in post-MI patients with average cholesterol levels. These results emphasize the importance of identifying MI survivors with undiagnosed diabetes and IGT so that cholesterol reduction can be initiated.

1.P.147 The effect of garlic powder dragees on plaque regression

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High resolution ultrasonographic measurements of plaque volume allows the detection of early atherosclerotic changes. This method provides reliable results and has got a high reproducibility. The technique used involved scanning of the vessel in longitudinal and transversal views respectively. Three-dimensional plaque volume is determinated by scanning the vessel diameter in a set of parallel crossectional images. Aim of the present study ist to assess the effect of garlic powder given in a dose of 300 mg three times daily on plaque progression or regression. 200 subjects with different cardiovascular risk factors have been included in this double-blind, placebo-controlled trial and have been followed up for 54 months. Ultrasonic measurements of plaque volumes took place every 18 months. The number of subjects with regression of plaque volume at the different time intervals are listed in the table below:

Month		Verum	Placebo
After 18	regression/progession	44/28	36/54
After 36	regression/progession	40/29	37/49
After 54	regression/progession	39/22	42/49

There was a significant difference between verum and placebo after 54 months ($p < 0.05$). The results show that the postulated antiatherogenic effect of garlic is of clinical relevance.