that prolonged daily exposure to increased PAI-1 levels might be an important factor facilitating appearance of CHD both in NIDDM and in nondiabetics.

## 2.P.366 High prevalence of homozigosity for the 677C→T mutation of the 5;10-methylenetetrahydrofolate reductase gene and hyperhomocysteinemia in patients with early-onset thrombotic events

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Moderate hyperhomocysteinemia is a risk factor for thrombosis. A common mutation (677C→T) of the 5;10 methylenetetrahydrofolate reductase (MTHFR) gene is related to moderate hyperhomocysteinemia. In 136 consecutive patients (71 m, 65 f) with a history of thrombosis (77 with vein thrombosis, 47 with arterial thrombosis, 12 with both, mean age at first episode 36.3 ± 11.8 yrs), we have evaluated the prevalence of homozygosity for the 677C→T substitution (++) as related to moderate hyperhomocysteinemia and to the type of event. The clinical summary was obtained by a questionnaire; total homocysteine -tHcy- (fasting) was evaluated by HPLC and fluorescence; antithrombin III, Protein C and Protein S (total) antigens, by standard tecniques; the 1691G→A mutation of factor V (APC resistance), and the 677C→T mutation of the MTHFR gene, by PCR. All the parameters were determined >3 mo. after the event. The 677C→T ++ mutation was detected in 33/136 patients (24.2%) and in 39/258 controls (15.2), (chi squared 4.4, p = .036). Among the 33 ++ patients, 21 (64%) had elevated tHcy levels whereas 12 (36%) normal tHcy levels. As a whole, elevated tHcy was detected in 40/136 patients (29.5%). The ++ mutation was detected in 21 (52.5%) of them. Of the patients with vein thrombosis, 16 (20.7%) were ++ . Homozigotes for the mutation were also 14 (29.7%) individuals with arterial thrombosis (p < .03 for the association), and 3 (25%) with both. At least one risk factor for thrombosis (acquired and/or inherited) was found in 88% of ++ patients with arterial and in 84% of those with vein thrombosis. Thus, homozygous 677C→T mutation of the MTHFR gene is a susceptibility factor for early onset thrombosis and major determinant of moderate fasting hyperhomocysteinemia.

## 2.P.367 Protection of exercise induced pro-thrombosis by aspirin

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**Purpose:** In angina patients, coagulation factors are already activated at rest and more promoted by exercise. We investigated aspirin's anti-thrombotic mechanism during exercise.

**Methods:** 28 angina patients' coagulation factors; Fibrinogen, Antithrombin 3, prothrombin time, activated partial thromboplastin time: fibrinolytic factors; tissue plasminogen activator, PAI-1, FDP, D-dimer: Platelet functions; platelet counts, platelet aggregation were measured at rest. Then symptom limited treadmill exercise test was performed and blood samples were taken just after exercise and 30 minutes later, before and after 81 mg aspirin treatment for more than 10 days.

**Results and Conclusions:** Aspirin suppressed activated coagulation factors, induced by exercise and normalize its slow recovery. Suppressed fibrinolytic factors are promoted and platelet functions are suppressed through-out exercise. By these three mechanisms, aspirin was thought to protect exercise induced prothrombosis.

## 2.P.368 Factor VII:A responds to fatty meals, independently of fat composition

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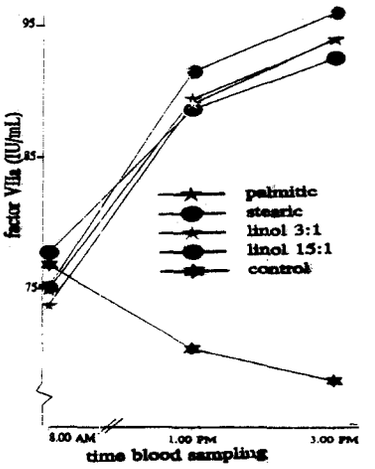
The purpose of this study was to investigate whether the response of activated factor VII (FVII:A) to a fat-rich meal depends on the fatty acid composition of the meal.

Ninety-one women (mean age 75) received four fat-rich (51 energy %) test breakfasts, differing in fatty acid composition and one fat-free control breakfast in random order. The four test-breakfasts were rich in either palmitic acid (39% of fat), stearic acid (38%), linoleic/α-linolenic acid with ratio 3:1 (24:8%) or with ratio 15:1 (37:2%). Blood samples were collected in fasting state immediately before breakfast at 08.00 AM and postprandially at 1.00 PM and 3.00 PM. FVII:A and triglycerides were measured. The mean fasting FVII:A concentration was 75.2 (SD: 32.1) IU/mL. After the control breakfast FVII:A decreased with 8.7 IU/mL (95% confidence interval (CI): 6.3, 11.1). After all test breakfasts FVII:A increased and these responses were different from the response to the control meal. The response was similar for each test breakfasts. When the test breakfasts were combined the mean response of FVII:A until 3.00 PM sample was 19.5 IU/mL (CI: 15.8, 23.2). The response of triglycerides was highest after the stearic and palmitic meals, lower after both linoleic/α-linolenic meals and only slightly increased after the control meal. These responses were not associated with the response of FVII:A.




In elderly women FVII:A increases profoundly after a fat rich meal, independently of fatty acid composition.

## 2.P.369 Procoagulant factors and cholesterol

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**Objective:** To find out if any relationship between levels of total cholesterol (TC) and factors of coagulation exists.

**Methods:** We selected 74 subjects among 1600 healthy men who underwent a medical examination and divided them in 3 groups according to their level of TC during 2 years. We obtain 22 with TC between 125–150 mg/dl (group A), 28 with TC between 200–240 mg/dl (group B) and 22 with TC >240 mg/dl (group C) and we compared their levels of fibrinogen (FIB) measured in mg/dl, thrombin-antithrombin III complex (TAT) in microg/dl, prothrombin fragments 1 + 2 (F 1 + 2) in nmol/l, Factor XII (F XII) in mg/dl and tissue plasminogen activator inhibitor (PAI-1) in IU/ml. We considered differences were statistically significant if p < 0.05.

**Results:**

| FIB. | X | S.D. | p < 0.01 | PAI | X | S.D. | p < 0.001 |
|---|---|---|---|---|---|---|---|
| A | 287 | 60 | | A | 24 | 14 | |
| B | 342 | 67 | | B | 35 | 9 | |
| C | 357 | 62 | | C | 36 | 11 | |

| F1 + 2 | X | S.D. | N.S. | FXII | X | S.D. | N.S. |
|---|---|---|---|---|---|---|---|
| A | 2.5 | 4.5 | | A | 90 | 20 | |
| B | 1.4 | 0.9 | | B | 105 | 20 | |
| C | 1.3 | 1.1 | | C | 100 | 33 | |

X = arithmetic mean, S.D. = standard deviation

| TAT | A | B | C | N.S. |
|---|---|---|---|---|
| X | 48 | 32 | 8 | |

X = arithmetic mean

**Conclusions:** Subjects without coronary disease showed a statiscally significative relationship between CT in peripheral blood and levels of fibrinogen and PAI.

Tuesday