POSTER SYMPOSIUM XVI

Thrombosis: Prophylaxis of DVT.

EXTERNAL PNEUMATIC COMPRESSION OF THE LEGS TO PREVENT VENOUS THROMBOEMBOLISM IN NEUROSURGICAL PATIENTS. R. Collins, N. Coe, E. Goldstein, R. Shapiro, J. Skillman, N. Zervas and E. Salzman. Beth Israel Hospital and Harvard Medical School, Boston, MA., U.S.A.

Neurosurgical patients are at high risk of venous thrombosis (DVT) and pulmonary embolism (PE) but are poor candidates for antithrombotic drugs for fear of intracranial bleeding. Turpie et al. found external pneumatic compression of the legs (EPC) for five days prevented DVT while applied, but 10 days later EPC group and controls were not different. We compared EPC with inflatable boots vs. untreated controls in 94 patients with trauma or operations of central nervous system or ruptured intracranial aneurysm, continuing EPC throughout period of bedrest (up to 17 days). Diagnosis of DVT was by ^{125}I-fibrinogen scan confirmed by phlebography in cases with positive scans. Results (Table) showed EPC gave significant protection against DVT in neurosurgical patients. There were no complications of EPC. There were no pulmonary emboli, even in the control group, so surveillance by ^{125}I-fibrinogen scan may help to prevent PE.

	No.	Neg. scan (a)	Positive scan: positive venogram (b)	negative venogram (c)	no venogram (d)	Signif. of diff. (a+c) vs. (b+d)	(a vs. b)
Controls	48	34	11	2	1	$p < 0.05$	$p < 0.05$
EPC	46	39	3	3	1		

THE ROLE OF DIHYDROERGOTAMINE IN THE PROPHYLAXIS OF POSTOPERATIVE DEEP VEIN THROMBOSIS. V.V. Kakkar, J.D. Stamatakis and D. Lawrence. Thrombosis Research Unit, King's College Hospital Medical School, London, England.

In randomly allocated trials, the prophylactic efficacy of DHE and a combination of DHE with heparin was investigated in 200 consecutive patients. Of 100 patients undergoing major surgery, 50 received 0.5 mgm. of DHE every 12 hours and 50 received 50000 units of heparin every 8 hours. The frequency of DVT, determined by the ^{125}I-fibrinogen uptake test, was 20% in those receiving DHE compared with 4% in those receiving heparin, the difference being statistically significant (p 0.05).

Of 100 patients undergoing total hip replacement arthroplasty, 50 received 5000 IU of heparin every 8 hours, and 50 received heparin according to the same regimen, together with 0.5 mgm. of DHE. DVT was detected by the ^{125}I-fibrinogen test and venography. Twenty-six (52%) patients in the heparin group developed DVT, compared with 1- (20%) who received the combination; the difference in the incidence of thrombosis between the two groups was statistically highly significant (p 0.005).

The effect of DHE on calf muscle blood flow was determined using Xenon^{133}. There was significant increase in mean muscle blood flow 2 hours after the administration of 0.5 mgm. of DHE subcutaneously (p 0.05).

It is concluded that a combination of DHE and heparin is more effectively than heparin alone in preventing postoperative DVT.