COMPARISON OF SODIUM AND CALCIUM HEPARIN IN PROPHYLAXIS OF VENOUS THROMBOEMBOLISM. J.F. Cade.
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Sodium and calcium heparin in minidose have both been shown to be highly effective in reducing the incidence of venous thromboembolism in hospital patients but there is little comparative data on their relative efficacy. In the present study, sodium heparin, calcium heparin or placebo (isotonic saline) was given to 148 high-risk patients. Treatment was allocated randomly, was double blind and was given by subcutaneous injection 12 hourly for 10 days or until the patient was fully ambulant. The heparin was prepared by the same manufacturer from the same batch and both active preparations (each 5000 U) and placebo were made into coded ampoules of 1 ml. Leg scanning was performed daily, the sites of injection were checked for pain or bruising, the partial thromboplastin time (PTT) was measured 3 and 6 hours after injection on at least two occasions and a lung scan was obtained when possible on the tenth day. Positive leg scans were found in 31% of control patients, 8% of patients given sodium heparin and 4% of patients given calcium heparin. These differences are statistically significant. There were no significant differences in PTT's between groups nor in lung scans. It is concluded that both sodium and calcium heparin are effective in reducing the incidence of calf vein thrombi but that in equivalent dose calcium heparin may be somewhat more effective.

SHIRLEY JOHNSON MEMORIAL LECTURE

PROSTAGLANDIN ENDOPEROXIDES AND THROMBOXANES: ROLE IN PLATELETS

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Two groups of unstable ($t_{1/2}=5$ min) endoperoxides, PGG and PGH compounds, have been isolated and shown to be precursors of the prostaglandins. The endoperoxides cause platelet aggregation and contract vascular and air-way smooth muscle.

A new group of compounds (thromboxanes) derived from the endoperoxides has been discovered. A highly unstable ($t_{1/2}=30-40$ sec) intermediate, thromboxane A_2 , between the endoperoxides and thromboxane B_2 has been detected. Structural work indicates that it has a bicyclic oxane-oxetane structure. Thromboxane A_2 is a potent aggregating agent with pronounced effects on vascular smooth muscle. Studies on the mechanisms of actions of the endoperoxides and thromboxanes in human platelets will be discussed.