

HEPARIN - ITS USE IN THROMBO-EMBOLIC DISEASE

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The essential factors of risk leading to thrombo-embolic conditions are:— age above forty, obesity, cancer, phlebitis and the contraceptive pill.

The last ten years have seen an up-surge of interest in the use of heparin to prevent venous-thrombo-embolic disease. Clinical trials have established that low dose heparin provides effective prophylaxis not only against deep vein thrombosis but also against deaths from post-operative pulmonary embolism.

The benefit of low dose heparin prophylaxis is not limited to surgical patients only. In acute myocardial infarction, a similar reduction of venous thrombosis has been observed with the use of low dose heparin. Similarly, heparin has been shown to reduce the incidence of deep vein thrombosis in patients confined to bed following an acute stroke. These findings suggest that patients with any medical disease requiring prolonged bed rest, 'at risk' of developing thrombo-embolic complications, would be equally benefitted by low dose heparin prophylaxis.

Heparin, unlike oral anticoagulants, does not cross the placenta. Hence, it is safe to use during pregnancy. This makes heparin the drug of choice to treat acute venous thrombosis with or without pulmonary embolism in pregnant women.

Preparations of Heparin

There are two types of heparin available on the international market: calcium and sodium heparin. The sodium heparin is preferred due to:—

a) longer duration of action, thus it can

be used on twelve hour regimes (calcium heparin has an eight hour regimen).

- b) less painful at time of injection.
- c) lower cost.

Toxicity and Side Effects

Heparin is relatively non-toxic, thrombocytopenia, anaphylactic reactions, alopecia and osteoporosis are rare. The chief danger of heparin is haemorrhage. Mild haemorrhage responds to simple withdrawal of the drug. In severe haemorrhage, protamine sulphate has to be administered. 1.0 mg of protamine has to be given to antagonize 100 units of heparin.

Contra-Indications

1. patients with bleeding tendencies
2. threatened abortion
3. suspected intracranial haemorrhage
4. subacute bacterial endocarditis
5. inaccessible GIT ulcers
6. visceral carcinoma
7. regional or lumbar block anaesthesia
8. severe hypertension
9. tube drainage of stomach and small intestine
10. heparin hypersensitivity
11. shock
12. before or after eye, brain, and spinal cord surgery.

Like all prophylactic therapy, large numbers of patients have to be treated to benefit the relatively few, who would otherwise have suffered from overt di-

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sease. In many leading medical countries such as England, low dose heparin prophylactic technique is done regularly. This should encourage us to expand this treatment in our hospitals.

References

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