injury or acute hypoxic liver damage. The typical features are the disproportionate increase of GLDH as compared to that of the transaminases, the rapid and relatively high elevation of the enzymes indicative of cholestasis, and the early decrease of cholinesterase activity.

Thus we are dealing with the coincidence of disturbances of cellular and subcellular membrane permeability as well as intrahepatic cholestasis and a reduced protein synthesis and/or secretion.

As to the mechanism of the lesion, three possibilities are to be considered foremost: a sudden disturbance of the microcirculation of the liver, hepatotoxicity of streptokinase in itself, or a direct action on the membranes of the parenchymal cells due to the enhanced proteolytic activity of the plasma. Up to now we have investigated the last two possibilities. Figure 3 shows the results of some studies on the effect of streptokinase, plasmin and plasmin activator on the isolated, haemoglobin-free and volume-constant perfused rat liver. After one hour of perfusion we added one of these compounds in a dose comparable to the concentration reached in human blood, and followed the release of cellular enzymes into the perfusion medium. Streptokinase was without a significant effect. The addition of plasmin as well as of activator, however, led to a marked acceleration of enzyme release.

This suggests that streptokinase itself does no harm to the liver, whereas the activated proteolytic enzymes increase the cellular permeability significantly.

For practical use, these observations demonstrate that frequent but fortunately transient liver lesions have to be taken into account during streptokinase treatment.

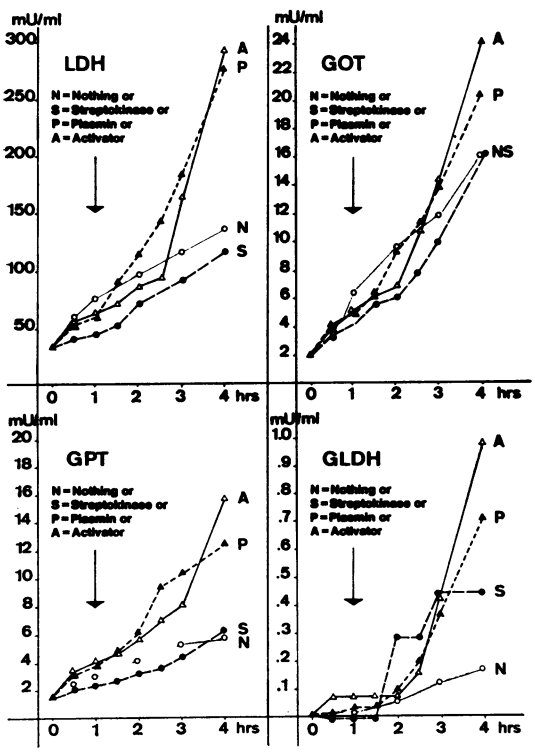

Fig. 3. *Enzyme release of the isolated perfused rat liver.*

Abstract

Some Experiments with Streptokinase in Recent Aortic Prosthese in Dogs and Cats

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Streptokinase was infused into 18 dogs and 13 cats four days to six weeks after the insertion of aortic prostheses. Control studies with saline infusion were carried out with eight dogs and six cats.

With streptokinase treatment almost all animals experienced severe bleeding within one week and in cats within up to three weeks of insertion of the prosthesis. Histological examination in these cases showed complete lysis of fibrin deposits within the lumen of the prosthesis.

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