THE EFFECTS OF ADRENAL REGENERATION AND OF CORTICOIDS ON EXPERIMENTAL NON-DIETARY CIRRHOSIS IN RATS*

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If bilateral adrenalectomy is performed in rats receiving repeated intravenous injections of egg yolk, a fine non-progressive fibrosis is transformed into a severe progressive one, and the animals rapidly succumb.[1] This high mortality after bilateral adrenalectomy did not occur in a series of 6 animals in whom adrenal regeneration took place or in a further 4 animals where adrenal enucleation was done in place of adrenalectomy. Regeneration occurred in 20 - 30 days, and the amount of adrenal tissue produced varied in size from microscopic foci to small nodules visible to the naked eye — the latter being found in animals that survived the longest. Hydrocortisone (2 - 5 mg.) given before each injection of egg yolk also prevented fatalities after bilateral adrenalectomy in a series of 9 animals, but did not prevent adrenal regeneration in 4 of the 9.

Small numbers of cells resembling those of the normal zona glomerulosa could be found in some regenerated adrenals, but in these and in fact in all cases of adrenal regeneration, the great majority of cells resembled those of the normal fasicular zone. Hydrocortisone did not appear to show selective inhibition of either glomerular or fasicular type cells in the regenerated adrenal tissue.

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Although both hydrocortisone and adrenal regeneration secured survival of the animals, neither appeared capable of preventing some progression of the hepatic fibrosis when injections of egg yolk were continued after bilateral adrenalectomy. Preliminary results suggest that deoxycorticosterone acetate may be less effective than hydrocortisone in reducing mortality, while 'phenergan' appears to have no protective effect.

REFERENCE

1. Campbell, J. A. H. (1961): S. Afr. Med. J., 35, 124.