A Further Serological Distinction between the Hæmagglutinins of *Dolichos biflorus* and *Phaseolus lunatus*

SEED hæmagglutinins have recently been investigated in considerable detail. Many botanical species contain non-specific agglutinins for human erythrocytes and some contain agglutinins which are relatively or absolutely specific[1-3].

Krupe[4] has demonstrated the presence of incomplete antibodies in various seeds. The action of seed agglutinins on enzyme-treated cells is now being investigated in our laboratories. The enzyme used is papain and the technique that described by Stratton[5]. Detailed results will be published in due course.

Bird[6] has directed attention to the fact that there is a difference in the serological reactions of extracts of two *A*-specific seeds, *Dolichos biflorus* and *Phaseolus lunatus*. The former act strongly on A_1 and A_1B cells and relatively weakly on A_2 and A_2B, whereas the latter act more uniformly on these sub-groups.

The present communication reports a more marked serological distinction between the two agglutinins. *Phaseolus lunatus* extracts act upon papainized erythrocytes of groups *B* and *O*, whereas *Dolichos biflorus* extracts retain their specificity for *A* cells when tested under identical conditions (see table).

TITRES OF UNTREATED AND PAPAINIZED CELLS AGAINST *A*-SPECIFIC SEED EXTRACTS

	Untreated cells Group			Papainized cells Group		
	A	*B*	*O*	*A*	*B*	*O*
Dolichos biflorus	1,024	0	0	32,768	0	0
Phaseolus lunatus	2,048	0	0	65,536	8	8

These observations are in keeping with the fact that extracts of some varieties of *Phaseolus lunatus* act weakly on *B* and *O* cells[2], and the observation that these extracts act strongly on panagglutinating (infected) cell suspensions irrespective of their *ABO* group (unpublished results). On the other hand, *Dolichos biflorus* extracts are not known to act on *B* and *O* cells, and do not lose their specificity when tested with panagglutinating cell suspensions (unpublished results).

It appears that *Dolichos biflorus* agglutinins have a greater degree of specificity for the agglutinogen *A* than was originally appreciated.

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Mechanism of Hypotensive Action of Reserpine, an Alkaloid of *Rauwolfia serpentina*

STUDIES on the pharmacology of extracts of *Rauwolfia serpentina* have been reported by Chopra, Gupta and Mukherjee[1], Ray *et al.*[2] and Dasgupta *et al.*[3]. Chopra, Gupta and Mukherjee[1] reported that the alkaloid with which they were working had a marked hypotensive effect which was in part due to depression of central nervous mechanisms, since it was less marked in decerebrate animals, but appeared also to result in part from a direct inhibitory effect on the musculature of the blood vessels. They demonstrated also a fall in the output of the isolated heart. Most subsequent work has suggested that the hypotensive effect of *Rauwolfia* alkaloids is mediated solely via central nervous mechanisms.

A new alkaloid, now named reserpine, was isolated by Müller, Schlittler and Bein[4], and pharmacological studies on the action of this alkaloid have been published by Bein *et al.*[5], Bein[6], and Trapold *et al.*[7]. Their results were in conformity with those of other workers on *Rauwolfia*, who reported it to act via the central nervous system, and they emphasized particularly its capacity to inhibit reflex pressor responses.

Our own studies have confirmed that reserpine diminished reflex vasomotor responses, but have also demonstrated a direct effect on the peripheral vessels independent of its nervous activity. This action is most clearly seen in the rabbit; we employed the preparation devised by Gallagher[8], in which the innervated but otherwise isolated hind-limb is perfused with a blood–dextran medium at constant rate. Changes in vasomotor tone in the limb are indicated by alterations in perfusion pressure. We have found that injections of reserpine into the systemic circulation of the rabbit produce an immediate fall in systemic blood pressure. This is accompanied by an immediate rise in limb perfusion pressure instead of a fall, as would have been expected were the fall of blood pressure mediated through the nervous system. Furthermore, injection of reserpine directly into the artery of the perfused hind-limb causes immediate diminution in vasomotor tone. Reserpine has also been shown to have a depressant effect on the action of vasopressor substances injected into the isolated rat hindquarter preparation and on the response to nervous stimuli of isolated portions of rat diaphragm. A feature of all these reactions is their remarkably prolonged duration, suggesting binding of the drug by the musculature.

We have also obtained evidence that such a direct peripheral effect may play some part in the hypotensive action of reserpine in man. We have found that the blood pressure in the supine position can be brought to a lower level by the combined action of reserpine and large doses of hexamethonium bromide than by hexamethonium alone.

Papers embodying the results of these studies are being prepared and will be published elsewhere.

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