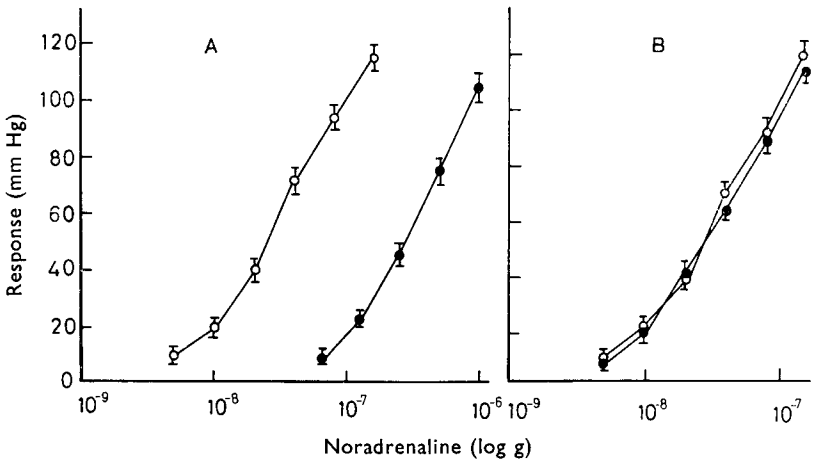

FIG. 1. After 6-hydroxydopamine the vasoconstrictor responses of mesenteric vessels to injected noradrenaline was increased. Each point represents the mean value (± s.e. as vertical bars). (A) ● – ● control responses (6), and ○ – ○ ten days after the first injection of 6-hydroxydopamine (4). (B) Effect of desipramine (10^{-8} g/ml) in the perfusion fluid.[8] ● – ● control responses (6), and ○ – ○ ten days after the first injection of 6-hydroxydopamine (4). Figures in brackets in the legend indicate the number of individual observations.

(Laverty & Phelan, 1969) and there is evidence that the doses we used are more effective in destroying sympathetic nerve endings (Thoenen & Tranzer, 1968; Clarke & Jones, 1969; Finch & Leach, 1970).

In conclusion our results suggest that the increased cardiovascular reactivity to catecholamines, after treatment with 6-hydroxydopamine is at least partially due to supersensitivity of the vascular beds.

School of Studies in Pharmacology,
University of Bradford,
Bradford, 7, Yorkshire, U.K.
April 15, 1970

L. FINCH
G. D. H. LEACH

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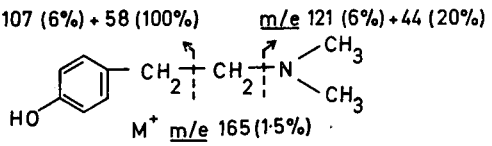
Identity of peyocactin, an antibiotic from peyote (*Lophophora williamsii*), and hordenine

A variety of medicinal uses have been claimed (LaBarre, 1960; Schultes, 1940) for the well-known hallucinogenic peyote cactus, *Lophophora williamsii* (Lemaire) Coulter. McCleary, Sypherd, & Walkington (1960) recently isolated peyocactin, a water-soluble crystalline substance, from an ethanol extract of peyote and found it to be inhibitory *in vitro* against 18 strains of penicillin-resistant *Staphylococcus aureus* and effective in mice against fatal staphylococcal infection. Since there appeared to be no report in the literature elucidating the structure of peyocactin, it became an objective to characterize this antibiotic substance.

The crystalline peyocactin, mp 117–118°, isolated according to the procedure of McCleary & others (1960) and recrystallized thrice from water, was found to be homogeneous by silica gel G thin-layer chromatography in 5 solvent systems (Kirchner, 1967). Diazotized sulphanilic acid (Stahl, 1965) was utilized as the chromogen which also established the phenolic nature of peyocactin. The proton magnetic resonance spectrum of peyocactin in deutero-methanol (tetramethylsilane as internal standard) showed the following signals: δ 2·87 (6H, singlet, $-N\langle^{CH_3}_{CH_3}\rangle$, 3·02 and 3·20



(2H each, multiplets, A_2B_2, $ArCH_2CH_2N$), 6·75 and 7·13 ppm (2H each, doublets, $J = 7$ Hz, AA′BB′, *p*-disubstituted aromatic). The mass spectrum of peyocactin exhibited the molecular ion at *m/e* 165 with major fragments indicated in Scheme 1. These two spectra clearly identified peyocactin as *NN*-dimethyl-*p*-hydroxyphenethylamine (hordenine), which was confirmed by comparison of the spectra with those of an authentic sample of hordenine. Further, the infrared spectra (KBr pellets) of peyocactin sulphate and hordenine sulphate were superimposable and their m.p. (197–198°) was unaltered upon admixture. Similarly the picrate derivatives of the two substances were identical (mp 139–140°).

Hordenine has been previously reported in the peyote cactus (McLaughlin & Paul, 1966; Todd, 1969) and it is also known in the literature as anhaline (*Anhalonium fissuratum*) (Reti, 1953). Earlier studies by Camus (1906) have shown hordenine to be slightly antiseptic. Although McLaughlin & Paul (1966) made reference to this antiseptic action of hordenine in an attempt to account for the bacteriostatic activity of peyocactin, no efforts were made to characterize the antiobiotic. It has now been established that peyocactin is indeed hordenine.

The author thanks Dr. H. M. Fales for helpful discussions and encouragement. The peyote plans and reference sample of hordenine employed were generously provided by Dr. G. J. Kapaidia, Howard University, to whom the author expresses his indebtedness.

Laboratory of Chemistry,
National Heart and Lung Institute,
National Institutes of Health,
Bethesda, Maryland, 20014, *U.S.A.*

G. SUBBA RAO

May 15, 1970

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