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Observations on Haemoglobin P (Congo Type)

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Haemoglobin P was first reported from Galveston (Schneider & Haggard, 1957) and then from the Congo (Dherte, Lehmann & Vandepitte, 1959). The Galveston type has been identified as β^{117} His $\rightarrow$ Arg (Schneider, Alperin, Brimhall & Jones, 1969). The Congo type was found in several individuals together with haemoglobins A and S (Dherte *et al.* 1959; Lambotte-Legrand, Ager & Lehmann, 1960), and therefore thought to be an α -chain mutant. However, on hybridization it behaves like a β -chain mutant (Gammack, Huehns, Lehmann & Shooter, 1961) and this was also seen on electrophoresis of the separated chains (Chernoff & Pettit, 1964).

Since β^A and β^S are alleles it is impossible for one individual to have haemoglobins A, S and another β -chain variant. The possibility suggests itself that haemoglobin P is a fusion product of an unequal cross-over between the δ - and β -chain genes, producing a chromosome carrying the genes for the δ -chain, a $\beta\delta$ fusion product and normal β -chain. With the $\beta\delta$ product, haemoglobin Lepore, there are no genes for the δ - and β -chains on the same chromosome.

A cross-over between β^{23} and 115 would give a $\beta\delta$ product resembling on electrophoresis haemoglobin P-Galveston (β^{117} His $\rightarrow$ Arg) because the difference in charge between β and $\beta\delta$ would be that between β^{116} His and δ^{116} Arg.

Enough haemoglobin P-Congo was available for peptide chromatography but not for determining amino acid sequences. The tryptic peptides of the aminoethylated globin were 'fingerprinted' in the usual way (Sick *et al.* 1967). Peptide β III (β^{18-30}) was present, but no peptide was found where δ III would be expected; on the other hand the three peptides, δ XIIa, b₁ and b₂, expected from the aminoethylated δ -chain were present with expected staining reactions; BXIIb was absent.

A $\beta\delta$ fusion product, haemoglobin Miyada, has been described by Yanase *et al.* (1968). It resembles the β -chain at least as far as β^{17} , but it contains peptide δ III and is the δ chain from then on.

As haemoglobin P-Congo occurs with a normal A₂ content and can be present with haemoglobins A and S, the order of genes from the N-terminus is $\delta\beta$ rather than $\beta\delta$, otherwise haemoglobin Lepore and not the $\beta\delta$ product would be inherited on a chromosome that also carries δ - and β -chain genes.

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Ethanolamine Plasmalogen Metabolism in Myelinating Rat Brain

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Although brain plasmalogens undoubtedly have a structural function, in very young animals these substances have been shown to be undergoing a rapid catabolism (Debuch, 1964, 1966). Further, although the rate of formation of ethanolamine plasmalogens in myelinating rat brain is relatively greater than at any other time, Ansell (1968) has reported that brain plasmalogenase, which liberates aldehydes from ethanolamine plasmalogens, increases rapidly at this time.

To obtain labelled ethanolamine plasmalogen and glycerophosphatide (EGP) for these studies, [9,10-³H]palmitic acid (1 mCi/animal) was injected intracerebrally into 13-day-old rats and the [³H]EGP was isolated after 2 days incubation. The [³H]EGP was emulsified in Tween 20 and injected intracerebrally into 13-day-old rats (Bickerstaffe & Mead, 1967). After a 2 h incubation, brain lipids were fractionated and the distribution of radioactivity in phospholipids and sphingolipids was determined. Comparative studies were also made with plasmalogen-free [³H]EGP and with [¹⁴C]-palmitic acid.

These studies indicate that the alkenyl groups of ethanolamine plasmalogens are better precursors of the acyl groups of sphingomyelin and cerebroside