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Group-Specific Component and Haptoglobin Polymorphism in Poland

A Resurvey

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SUMMARY

A survey of Gc and Hp polymorphism in Poland, designed to check results of earlier studies, gives the frequencies of Gcl and Hpl genes as 0.73 and 0.37 respectively.

The haptoglobin polymorphism has been studied in Poland by Kobiela (1961), Kobiela et al (1962), Murawski and Miszczak (1961), and Schlesinger (1961a, b), and the frequencies of the Hpl gene reported by these workers are: 0.39, 0.38, 0.36, and 0.37, respectively. For the Gc system the frequencies reported for the Gcl gene in this country are: 0.66 (Kobiela et al, 1964) and 0.72 (Schlesinger, 1963). Considering the differences in frequencies quoted by the different authors for the two serum-protein systems, an attempt has been made to find out the true status of the Poles as regards these systems.

Sera from 514 random individuals were typed specifically for the Gc system. The haptoglobin results are based on 14,075 individuals referred to this Institute for Rhesus testing and paternity determinations from various parts of the country. All analyses were carried out according to current standard procedures.

The phenotype frequencies for the Gc and Hp systems are presented in the Table. The haptoglobin figures, both in adults and in children, are in agreement with those obtained earlier by Schlesinger (1961a, b), and it seems that a frequency of 0.37 for the Hpl gene represents the Polish population most adequately. The Gc gene frequencies are comparable to those obtained on a previous occasion by one of us (Schlesinger, 1963), and differ somewhat from the rather low figure of 0.66 for the Gcl gene reported in another study (Kobiela et al, 1964). Such low frequencies have earlier been reported, among others, for the Kurumba of India, 0.64 (Kirk et al, 1963); a German group from Berlin, 0.68 (Schultze and Heremans, 1966); and a Jew popula-

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Table. Distribution of Gc and Hp types in Poland

		N	Phenotypes			Gcl and Hpl gene frequencies
			1-1	2-1	2-2	
♂	Gc	281	156	101	24	
	Hp	4,629	655	2,127	1,847	
♀	Gc	233	120	95	18	
	Hp	4,907	728	2,235	1,944	
♂+♀	Gc	514	276	196	42	0.7276
	Hp	9,536	1,383	4,362	3,791	0.3737
Children	Hp	4,539	615	2,142	1,782	0.3714

tion of European origin, 0.66 (Cleve et al, 1962). In regard to the German study mentioned above it may be noted that the frequency of the Gcl gene in seven other German population samples ranges from 0.70 to 0.77, with 0.73 as the mean (Schultze and Heremans, 1966).

In conclusion it may be said that with 0.73 and 0.37 as the frequencies for the Gcl and Hpl genes, the Polish population falls within the range of frequencies observed for these protein systems in Europe.

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Riassunto

Un'indagine di verifica condotta sul polimorfismo dei sistemi Gc e Hp in Polonia, ha rivelato una frequenza di 0.73 per il gene Gcl e di 0.37 per il gene Hpl.

Résumé

Une recherche de contrôle conduite sur le polymorphisme des systèmes Gc et Hp en Pologne, a indiqué une fréquence de 0.73 pour le gène Gcl et de 0.37 pour le gène Hpl.

Zusammenfassung

Eine Untersuchung über den Polymorphismus der Gc- und Hp-System in Polen ergab eine Frequenz von 0.73 für das Gcl-Gen und 0.37 für das Hpl-Gen.

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