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BRIEF COMMUNICATION

H ANTIGEN PRESENCE IN AN *Ascaris lumbricoides* EXTRACT

Patricia PONCE DE LEÓN, Patricia FORESTO & Juana VALVERDE

SUMMARY

Previous experiences have demonstrated the same ABO system and P system antigens in *A. lumbricoides* extracts and in their hosts. The aim was to show the behavior of an *A. lumbricoides* extract from an O Group patient against monoclonal antibodies of different specificities. Agglutination Inhibition Tests were carried out facing the extract against monoclonal antibodies (anti A 2.23; anti B 2.54; anti B 2.62; anti AB 2.39 and anti H 2.72) in optimal concentrations. Suspensions of O Group fresh red cells were used as revealing system. The extract only inhibited the agglutination of anti H 2.72 with O erythrocytes. The semiquantitative Agglutination Inhibition Test of the extract was made against two series of anti H 2.72 dilutions by using O Group fresh red cells as revealing system. A difference of five dilutions between the titers of both series has been observed and the presence of H Antigen in the extract has been significantly confirmed. The fact that the extract did not inhibit the agglutination against anti A, anti B and anti AB has corroborated our previous observations about absence of A and B epitopes in *A. lumbricoides* extracts from O Group patients. The results of the preceding studies and this experience have demonstrated the membrane glycoconjugated importance in *A. lumbricoides*. They could be involved in molecular mimicry for this parasite.

KEYWORDS: H Antigen; *Ascaris lumbricoides.*

Many blood group antigens have been found in numerous parasites, nevertheless the clinical significance of these antigenic similitudes between a parasite and its hosts is not very clearly established yet[8]. Previous experiences have shown the same ABO System and P System antigens in *Ascaris lumbricoides* extracts and in their hosts[4,5,6,7]. The aim was to show the behavior of an *A. lumbricoides* extract from an O Group patient against monoclonal antibodies of different specificities.

The extract of *A. lumbricoides* was prepared by surgical removal of the cuticle and refrigerated mechanical rupture[1,3].

Agglutination Inhibition Tests were used with the extract[2]. The tests were carried out facing the extract against different monoclonal antibodies in optimal concentration. Five- percent suspensions of O Group fresh red cells were used as revealing system.

The monoclonal antibodies used in these experiences were supplied by Monoclonal Antibodies against Blood group Antigens (Workshop, Paris, July 2001). Monoclonal antibody characteristics are shown on Table 1.

The extract of Group patient only inhibited the agglutination of anti H 2.72 with O erythrocytes.

Table 1
Characteristics of monoclonal antibodies used in the Inhibition Agglutination Tests

Antibody	Specificity	Ig Class	Concentration (µ/mL)
2.23	Anti A	Ig M	< 0.5
2.54	Anti B	Ig G_3	< 0.5
2.62	Anti B	Ig M	< 0.5
2.39	Anti AB	Ig G_3	< 0.5
2.72	Anti H	Ig M	< 0.5

Then, the semiquantitative Agglutination Inhibition Test was made to confirm the presence of H Antigen in the extract. Two series of anti H 2.72 dilutions (1/2 to 1/1024) were prepared. The final volume of each dilution was 20 µL. Twenty microliters of physiological solution were aggregated in each dilution of the first series and 20 µL of the extract were aggregated in the second series. Both series were revealed with O Group erythrocytes, after 15 minutes at room temperature.

The titer of the first series was 512 and the titer of the second one was 16.

Laboratorio de Parasitología, Laboratorio de Inmunohematología y Hemorreología, Facultad de Ciencias Bioquímicas y Farmacéuticas, Universidad Nacional de Rosario, Argentina.
Correspondence to: Patricia Ponce de León, Cátedra de Parasitología, Facultad de Ciencias Bioquímicas y Farmacéuticas, UNR, Suipacha 531, 2000 Rosario, Argentina. E-mail: tefu1958@hotmail.com

The difference of five dilutions between both titers has significantly confirmed the presence of H Antigen in the extract. The fact that the extract did not inhibit the agglutination against anti A, anti B and anti AB has corroborated previous observations about the absence of A and B epitopes in *A. lumbricoides* extracts from O Group patients[4,6].

This experience has demonstrated the presence of H Antigen in an *A. lumbricoides* extract from O Group patient. Since ABO and P Systems are membrane glycoconjugated, our results show their importance in *A. lumbricoides.* The membrane glycoconjugated could be involved in molecular mimicry for this parasite.

RESUMEN

Presencia de antígeno H en un extracto de *Ascaris lumbricoides*

Experiencias previas han demostrado los mismos antígenos del Sistema ABO y del Sistema P en extractos de *A. lumbricoides* y en sus huéspedes. El objetivo fue mostrar el comportamiento de un extracto de *A. lumbricoides* de un paciente Grupo O frente a anticuerpos monoclonales de diferentes especificidades. Se hicieron pruebas de Inhibición de la Aglutinación enfrentando el extracto contra anticuerpos monoclonales (anti A 2.23; anti B 2.54; anti B 2.62; anti AB 2.39 y anti H 2.72) en dosis óptimas. El sistema revelador fue una suspensión fresca de eritrocitos Grupo O. El extracto sólo inhibió la aglutinación de anti H 2.72 con eritrocitos O. Se hizo la inhibición de la aglutinación semicuantitativa del extracto frente a dos series de diluciones de anti H 272 usando eritrocitos frescos Grupo O como sistema revelador. Se observó una diferencia de 5 diluciones entre los títulos de ambas series y se confirmó significativamente la presencia de antígeno H en el extracto. La no inhibición de la aglutinación del extracto frente a anti A, anti B y anti AB ha corroborado nuestras observaciones previas sobre ausencia de epitopes A y B en extractos de pacientes Grupo O. Los resultados de los estudios previos y de esta experiencia, han demostrado la importancia de los glicoconjugados de membrana en *A. lumbricoides,* los que podrían estar involucrados en el mimetismo antigénico para este parásito.

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