†1033 THE DECREASED RESPONSE OF HUMAN MILK LEUKOCYTES TO CHEMOTACTIC FACTORS. Larry W. Thorpe, Helen E. Rudloff, and Armond S. Goldman, from the Departments of Pediatrics and Human Biological Chemistry and Genetics, the University of Texas Medical Branch, Galveston.

The protective effects of human milk leukocytes (HMLs) may be different from their counterparts in blood. Based upon observations including the limited microbiocidal activity of milk neutrophils and macrophages, we hypothesized that these cells protect by non-inflammatory mechanisms. That possibility was further tested by examining the response of HMLs to well defined chemotactic factors.

The adherence, orientation, and chemotaxis of unfractionated washed HMLs to f-met-leu-phe (10^{-6}-10^{-9}M), f-met-phe (10^{-6}-10^{-9}M) and zymosan activated serum (ZAS) were compared to the responses of unfractionated peripheral blood leukocytes (PBLs). In contrast to PBLs, HMLs adhered poorly to glass, and both adherent and non-adherent HMLs failed to orient toward chemotaxins in Zigmond chambers. In sub-agarose and Boyden chamber studies, no chemotaxis of HMLs was observed, whereas the chemotaxis of PBLs was normal (ie. in subagarose plates: $\bar{x}$ S.D. with f-met-leu-phe, 1.1 ± 0.2mm; ZAS, 1.1 ± 0.4mm; $p<0.01$). We then tested whether leukocytes were inhibited by soluble colostral factors. PBLs in cell-free colostrum moved normally under agarose toward f-met-leu-phe or ZAS. Adherence of PBLs in colostrum was significantly decreased; this inhibition however was abrogated by reincubating the PBLs in tissue culture media.

Thus, the decreased response of HMLs to common chemotactic agents is further evidence that these leukocytes may be modified to protect by non-inflammatory mechanisms.

●1034 SPECIFIC CELL MEDIATED CYTOTOXIC IMMUNE RESPONSE TO HERPES SIMPLEX VIRUS (HSV) IN PATIENTS WITH RECURRENT HERPES LABIALIS (RHL). H. Tsutsumi, M.R. Talty, J. Bernstein, E. Cohen, P.L. Ogra. SUNY, Dept. of Ped., Children's Hospital, Buffalo, N.Y.

Group of subjects during acute (0-3 day) and convalescent (2-3 weeks) phase of RHL, and other HSV antibody seropositive or seronegative subjects without any history of RHL or cold sores were tested for the appearance of cell mediated cytotoxic response (CTR) employing release of radiolabelled chromium (Cr^{51}) from HSV infected autologous, or allogenic lymphocytes and K-562 erythroleukemia cell lines as non-specific targets. An attempt was made to define induction of T cell mediated CTR by employing as targets, PHA induced HSV infected autologous and allogenic lymphoblasts with defined HLA profiles. CTR on K-562 targets was observed in all patients with RHL, as well as in HSV seropositive and seronegative controls. The appearance of such CTR was associated with increased interferon (IFN) production. On the other hand, development of HSV specific CTR using autologous targets was essentially limited to subjects with RHL. Peak CTR activity was observed during the acute (17.0 ± 7.6%) phase of the disease, compared to the activity in the convalescent phase (13.6 ± 10.0), and in seropositive subjects without RHL (8.6 ± 1.3). No HSV specific CTR was observed in seronegative subjects. The magnitude of autologous target CTR could not be correlated to the presence or levels of IFN produced. These data suggest activation of HSV specific T and possibly other cytotoxic cells in patients with recurrent cold sores. Such responses may play an important role in the pathogenesis of recurrent HSV infection.

●1035 HUMAN HYBRIDOMA ANTIBODIES SPECIFIC FOR THE GROUP B STREPTOCOCCAL TYPE III (GBS-III) POLYSACCHARIDE. Richard L. Wasserman (Spon. by Joseph B. Warshaw) Depts. of Ped. & Micro., U of Tx, Southwestern Medical School, Dallas.

Human hybridoma antibodies produced following in vitro stimulation with whole GBS-III did not react with the type specific polysaccharide associated with antibody protective activity. An alternative approach, using affinity purified GBS-III polysaccharide (GBS-IIIp) coupled to a protein carrier, has resulted in the production of human monoclonal antibodies specific for GBS-III.

Twenty million mononuclear cells prepared from human tonsil or spleen were cultured in the presence of pokeweed mitogen and GBS-IIIp coupled to poly-l-lysine for 4 days and then fused with an HGPRT deficient human B cell line. Growth positive wells were screened for binding to isolated GBS-IIIp by RIA. Positive wells were expanded and retested for binding to whole GBS-Ia, GBS-II and GBS-III. Results expressed as counts bound in RIA minus background are as follows:

Hybridoma	GBS-Ia	GBS-II	GBS-III
A 1.1	267	53	868
A 27	57	67	491
A 42	538	550	901
A 32	1778	1478	2251

Based on specificity studies the anti-GBSIIIp monoclonals appear to recognize different epitopes which may be unique to GBS-III, shared with GBS-Ia or GBS-II or common to all three. One or more of these antibodies may confer protection against GBS-III sepsis.

●1036 THE RELATIONSHIP BETWEEN THE COMPONENT AND REGULATORY PROTEINS OF THE CLASSICAL PATHWAY C3 CONVERTASE. Thomas R. Welch, Judith Forristal, Linda Beischel and Clark D. West, Univ. of Cinti., Children's Hospital Medical Center, Div. of Nephrology, Cincinnati.

The classical pathway C3 convertase (C4b2a) is regulated by the action of two components. C4 binding protein (C4bp) accelerates its intrinsic decay and acts as a cofactor with the C3 inactivator (I) in the cleavage of C4b. We examined the possibility that an equilibrium existed between the serum concentration of the components ("C"[C4 and C2]) and regulators ("R"[C4bp and I]) of the classical C3 convertase.

Complete measurement of serum complement components was made in 184 normals. The r value of C vs R (each expressed as % normal) was +0.64; the 95% confidence interval was defined as the normal classical convertase C vs R relationship (CCC vs R).

A normal CCC vs R was found in 23/25 patients with heterozygous genetic deficiency of C2, C4, I, or C4bp and 11/13 newborns with low complement levels in cord sera. These data suggest that hypocomplementemia in the absence of complement consumption would not disturb the CCC vs R. In situations of classical pathway mediated complement consumption, the CCC vs R was usually abnormal (19/23 SLE, 2/2 bacteremia, 8/8 HANE, and 14/24 MPGN I). Patients with MPGN II with evidence of alternative pathway activation, however, generally had normal values of CCC vs. R (10/13).

Simultaneous examination of C4bp and I along with C4 and C2 may help to document the contribution of classical pathway activation to hypocomplementemia.

●1037 PROSTAGLANDIN-MEDIATED LYMPHOCYTE SYPPRESSION AFTER PRIMARY EBV INFECTION. Lowell L Williams (Spon. by Dwight A. Powell). Dept. Pediatrics. Ohio State University College of Medicine. Columbus, Ohio, 43205.

Primary Epstein-Barr virus(EBV) infection alters the host's immune system. We examined lymphocyte(PBL) function in 12 young adults for 5 months after infectious mononucleosis(IM) by measuring specific PBL blastogenesis to 7 heat-killed viral antigens. We tested prostaglandin(PG)E_2-mediated suppression of these reactions by adding indomethacin(IDM) in vitro. The % enhancement (higher cpm) of antigen + PBL cultures with IDM compared to those without IDM represented the abrogation of PG suppression(A)(100% = no enhancement). The number of antigens (of 7)showing enhancement were averaged(B). Serum content of the PG precursor,arachidonic acid(AA) was measured by gas-liquid chromatography from total lipid extractions (C). We compared these values to those of age-matched normals without IM :

Time after IM	(A)Ave. total % enhancement	(B)# antigens ↑ with IDM	(C)Ave. area % total AA
2-4 weeks	90.1%	1.33/7	6.54
5-8 weeks	175.9%	4.75/7	8.89
9-12 weeks	152.1%	4.57/7	5.71
3-5 months	90.6%	1.25/7	6.11
normals	88 ± 15%	1.50/7	8.25 ± 0.5

PGE_2-mediated functional suppression, a minor part of normal immunoregulation, is markedly increased 5-12 weeks after IM. Total serum AA appears consistent with high PG metabolism. The role of PG in the control of EBV infection merits investigation.

1038 INTERLEUKIN-1 SYNTHESIS BY CORD BLOOD MONOCYTES R.W. Wilmott, M.C. Harris, K.M. Haines, and S.D. Douglas, Children's Hosp. of Phila., U. of P. Sch. Med., Department of Pediatrics, Philadelphia, PA.

Interleukin-1 (IL1) is a mononuclear phagocyte secretory product that modulates lymphocyte function, acute phase protein synthesis and hypothalamic thermal regulation. Cord blood monocytes (>90% esterase positive) were isolated from 28 infants ranging in gestation from 31 to 41 weeks, (mean 38.9, SD 2.58) and stimulated with 10 mcg/ml LPS (E.coli). Control cultures contained medium alone or with 10 mcg/ml polymyxin B (PMB). Twenty-four hour supernatants were tested in a C3H/HeJ mouse thymocyte proliferation assay and mean response for 28 cord monocyte samples was 14142 cpm (SE 1499), similar to normal adults. Unstimulated monocytes from 16 of the 28 infants had IL1 levels that increased proliferation to more than twice background (720 cpm), mean 5726 cpm (SE 1647). As PMB binds LPS, five PMB controls were studied to investigate LPS contamination. Four of these controls had high unstimulated IL1 levels and two did not suppress significantly with PMB. The group with high unstimulated IL1 synthesis had significantly increased birthweights (mean difference 0.50 kg, $p<0.05$), and longer gestations (mean difference 1.9 wks, $p<0.05$). Those with perinatal complications had significantly increased unstimulated activity (5897 vs 1655 cpm) and stimulated activity (15876 vs 12293 cpm) compared to normal deliveries. Thus 1) the IL1 response to LPS is intact in newborn human monocytes and 2) there is evidence of spontaneous activation of cord blood monocytes following complicated deliveries and in more mature pregnancies.