Curriculum Vitae

Updated 01-01-2019

Name: **GIRISH N. VYAS, PH.D.**

Position: Professor Emeritus on Recall
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EDUCATION:

1949-54	St. Xavier's College, University of Bombay, India: B.Sc. (Honors) Microbiology
1954-56	Pathology Department, Seth G. S. Medical College, M. Sc. Microbiology.
1960-64	Pathology Department, Seth G. S. Medical College, Ph.D. Microbiology.
1973(10-12)	Department of Cell Biology, Weismann Institute, Rehovoth, Israel: Sabbatical study (Immunobiology; Prof. Michael Feldman).
1974 (1-3)	Sabbatical study at Clinical Research Unit, Walter & Eliza Hall Institute, Melbourne, Australia, (Immunology; Sir Gustaf Nossal and Dr. Ian McKay).
1980 (3-12)	Senior Fulbright Scholar at Pasteur Institute, Paris, France: Sabbatical study (Molecular Biology; Prof. Pierre Tiollais).
2006	Visiting Scholar, Department of Pediatrics, UCLA; Sabbatical leave (Prevention of mother to child transmission of HIV-1 infection; Prof. Yvonne Bryson)
2012	Fellow of the Royal College of Pathologists (U.K.)

PRINCIPAL POSITIONS HELD:

1954-56	Seth G. S. Medical College, Bombay, Postgraduate Research Fellow, Pathology
1956-57	Sir J.J. Hospital, Bombay, Jr. Research Fellow, Hematology
1957-65	Indian Council of Medical Research Blood Group Reference Center, Bombay, Assistant Research Officer
1964-65	King Edward the VII Memorial Hospital, Bombay Municipal Blood Center, Officer-in-Charge
1965-67	Western Reserve University, Cleveland, Ohio, Post-doctoral Research Fellow (Immunogenetics Laboratory; Prof. Arthur Steinberg)
1967-69	University of California, San Francisco, Department of Medicine, Lecturer and Senior Research Fellow (Hematology and Immunology; Prof. H. Hugh Fudenberg)
1969-73	University of California, San Francisco, Assistant Professor, Laboratory Medicine
1969-88	Director of Blood Bank, UCSF Medical Center
1973-77	University of California, San Francisco, Associate Professor, Laboratory Medicine
1977-6/29/10	University of California, San Francisco, Professor, Laboratory Medicine
6/30/10-Now	University of California, San Francisco, Professor Emeritus, Laboratory Medicine
1/1/2006-11	University of California, Los Angeles, Visiting Professor, Pathology and Lab Med

OTHER POSITIONS HELD CONCURRENTLY:

1975-pre	Liver Center	Investigator/Member
1984-95	Oral Biology Group, Member	Member

1985-97	Graduate Group in Biophysics	Member
1986-6/29/10	Laboratory Medicine	Director, Transfusion Research Program
2000-now	AIDS Research Institute (ARI)	Member

HONORS AND AWARDS:

1969	Jean Julliard Prize of International Society of Blood Transfusion
1969	Outstanding Immigrant in Bay Area Communities
1980	Senior Fulbright Scholarship for Sabbatical leave at Pasteur Institute, Paris
1982	Datta Memorial Award, Postgraduate Institute for Medical Research, Punjab
986	First P.D. Agarwal Oration in Hematology, Calcutta
1986	Dhayagude Memorial Award, Diamond Jubilee of Seth G.S. Medical College
1992	Indian Association of Pathology & Microbiology Endowment Lecture
1992	Dr. Bhatia Memorial Award, Bombay
1993	Keynote Speaker, XX Annual Conference of Indian Immunology Society
1994	White House Invitee for Briefing on President Clinton's Health Care Initiative
1995	Moolgaonkar Award, Indian Society of Immunohematology and Blood Transfusion
1997	Heffni Scholar Award for Transplantation Medicine
2003	UCSF School of Medicine Annual Salute to Excellence
2004	American Society for Microbiology Distinguished Editorial Services
2005	Editor-in-Chief, Biologicals (2006- now).
2006	Association of Scientists of Indian Origin in America (ASIOA) Oration
2012	Fellow of the Royal College of Pathologists, U.K.

BIOGRAPHY CITATIONS

1977-pres.	Men of Achievement, Biography Center, Cambridge, England
1981-now	Who is Who in America
1987 - now	Who is Who in the World
1993-now	Who is who Among Asian Americans
1994-now	Notable Non-Resident Indians
1997-now	Who is Who in Medicine and Healthcare
1998-now	Who is Who in Science and Engineering

CLINICAL ACTIVITIES

- Initiated automatic blood ordering system as Chief of the Blood Bank, in collaboration with Paul Ebert and George Brecher.
- Initiated the Joint Hematology/Transfusion Medicine Training Program in collaboration with Stephen Shohet and Marc Shuman.
- Prevention of hepatitis B virus (HBV) infection through Multi-center Clinical Trials of Hepatitis B Vaccines in collaboration with Cladd Stevens and Saul Krugman, and Hepatitis B Immune Globulins (HBIG) in collaboration with George Grady and Alfred Prince.
- Principal Investigator of the clinical trial of hepatitis B immune plasma (HBIP) in orthotopic liver transplantation in collaboration with John Roberts, Nancy Ascher and Norah Terrault.
- Clinical consultation with community hospitals (Alta Bates and Brookside Hospitals) and practicing physicians in the Northern California region regarding laboratory diagnosis and prophylactic clinical management of problems in viral hepatitis.
- Providing expert advice to California Blood Bank Society membership regarding problems of anaphylactic transfusion reactions.
- Planning pilot study for research on Inactivated HIV Envelope Proteins (HIV-env) for

Immunotherapy in Perinatally Infected Babies with HAART-controlled HIV infection, in collaboration with Yvonne Bryson at UCLA.

- Initiated cryo-preservation of PHA-stimulated PBMC as a novel cell substrate useful in virologic diagnosis and assessment of HIV-neutralizing antibodies.
- In collaboration with Alyssa Ziman (Director of UCLA Blood Bank), planning to develop a new therapeutic hyperimmune globulin specific for HIVenv proteins (HIVIGenv) by immunizing selected blood donors with uncommon CCR5-delta 32 homozygous mutation, which renders them resistant to HIV-1 infection.
- Planning clinical trials of HIVIGenv in Durban for for immunotherapy in persistent HIV-1 infection and in perinatal prevention of HIV-1 infection.

OTHER PROFESSIONAL ACTIVITIES

MEMBERSHIPS IN PROFESSIONAL SOCIETIES (Current)

American Association of Immunologists
American Society of Hematology
American Society for Microbiology
American Association for Advancement of Science
American Association for Study of Liver Disease
International Association for Biologics
Royal College of Pathologists

RESEARCH AND CREATIVE ACTIVITIES

PATENTS ISSUED OR PENDING

Granted following U.S. Patents:

3,887,697	Hemagglutination Assays for HBV antigens/antibodies; co-inventor Dr. Shulman
4,415,491	Synthetic Peptide Vaccine for Hepatitis B
4,483,793	Tetanus Toxoid Coupled Dimeric Peptide Epitope of HBsAg
4,596,792	Polymerized Albumin as a Safe Vaccine for Hepatitis B
5,776,711	Simultaneous detection of ABO and Rh blood groups by flow cytometry

PUBLICATIONS

Summary:

12 Edited Books/Monographs

230 Published papers, chapters, reviews, and editorial letters including -

157 Original papers in peer-reviewed journals underlined

60 Chapters and Reviews identified by Numbers with Suffix *cr*;

13 Letters or Correspondence identified by Numbers with Suffix *lc*.

EDITED BOOKS/MONOGRAPHS

1. Vyas GN. Studies of blood transfusion with special reference to blood volume and erythrocyte survival rates. Ph.D. Thesis, University of Bombay, 1964.
2. Vyas GN, Perkins HA and Schmid R.: Editors, Hepatitis and Blood Transfusion, Grune and Stratton, Inc., New York, NY, 1972.
3. Vyas GN, Stites DP and Brecher, G.: Laboratory Diagnosis of Immunologic Disorders, Grune and Stratton, Inc., New York, NY, 1975.
4. Vyas GN. Membrane Structure and Function of Human Blood Cells, American Association of Blood Banks, Washington, D.C., 1976.
5. Vyas GN, Cohen SN and Schmid R.: Viral Hepatitis, Franklin Institute Press, Philadelphia, PA, 1978.
6. Vyas GN, Dienstag JL, Hoofnagle JH: Hepatitis and Liver Disease, Grune & Stratton, New York, 1984.
7. Vyas GN, Hennesen W: Use and Standardization of Chemically Defined Antigens: Developments in Biological Standardization Vol 63, S. Karger, Basel, 1986.
8. Vyas GN, Guest Editor, Transfusion Medicine Reviews. Special Issue on Transfusion Associated Infections and Immune Response, Vol. 2(4), 1988.
9. Vyas GN, Venkateswaran KS, Gelb AB. Editors, Proceedings of the Symposium on Molecular Approaches to Laboratory Diagnosis. Biologicals Vol 24 (3), 1996.
10. Brown F and Vyas GN Advances in Transfusion Safety, Developments in Biological Standardization, Karger, Basel, 2000.
11. Vyas GN and Williams AE. Advances in Transfusion Safety, Developments in Biological Standardization, Karger, Basel, 2005.
12. Dax E, Farrugia A, Vyas G. Advances in Transfusion Safety, Karger, Basel, 2007.

BIBLIOGRAPHY OF PUBLISHED PAPERS (Excluding Abstracts)

1. Sukumaran PK, Sanghvi LD and Vyas GN. Sickle cell trait in some tribes of Western India. Curr Sci 1956; 25:290-291.
2. Banker DD and Vyas GN. Determination of blood groups and other genetical characters in certain endogenous Gujarati groups in the city of Bombay. J Gujarat Res Soc 1955; XVI: 157-161.
3. Vyas GN. Serological studies for the Gujarat region. J Gujarat Res Soc 1957; XIX: 232-241.
4. Vyas GN. Data relating to blood groups, sickling and other genetical characters in Gamit, a tribe of Surat District. Journal J J Group of Hospitals 1957; 2:189-196.
5. Vyas GN, Bhatia HM, Purandare NM and Banker DD. Study of blood groups and other genetical characters in six Gujarati endogamous groups in Western India. Ann of Hum Genet (London) 1958; 22:185-198.
6. Hakim SA, Vyas GN, Bhatia HM and Sanghvi LD. Eleven cases of "Bombay" blood phenotype in six families - Evidence of suppression of ABO genes in two families.

Transfusion 1961; 1:218-222.

7. Vyas GN, Bhatia HM and Sanghvi LD. Three cases of weak B in an Indian family. Vox Sang 1961; 5:509-516.

8. Vyas GN, Bhatia HM, Sukumaran PK, Balkrishnan V and Sanghvi LD. Study of blood groups, abnormal haemoglobins and other genetical characters in some tribes of Gujarat. Am J Phys Anthropol 1962; 20:255-265.

9. Vyas GN, Pandit HM and Purandare NM. Suppression of gene A in two cases of anti-H in a family from South Canara. J Assoc Phys of India 1962; 10:745-748.

10. Vyas GN, Sathe MS, Purandare NM and Satoskar RS. Red cell, plasma and blood volume measured by radiochromium labeled cells and haematocrit in Indian males and females. Indian J of Med Res 1965; 53:122-139.

11. Sathe MS, Vyas GN, Bhatia HM and Purandare NM. Hemagglutinating substances in plant seeds. J Postgrad Med 1967; XIII: 29-36.

12. Vyas GN, Pretty HM, Fudenberg HH and Gold ER. A new rapid method for genetic typing of human immunoglobulins. J Immunol 1968; 100:274-279.

13. Vyas GN, Munver UL, Purandare NM and Salgaonkar DS. Human cadaver blood for transfusion. Transfusion 1968; 8:250-253.

14. Fudenberg HH, Gold ER, Vyas GN and MacKenzie MR. Human antibodies to human IgA globulins. Immunochem 1968; 5:203-206.

15. Vyas GN, Perkins HA and Fudenberg HH. Anaphylactoid transfusion reactions associated with anti-IgA. Lancet 1968; ii: 312-315.

16. Vyas GN and Fudenberg HH. Use of B. subtilis neutral proteinase in blood group serology. Vox Sang 1969; 15:300-303.

17. Vyas GN, Sassetti RJ, Petz LD and Fudenberg HH. Experimental study of aldomet induced positive antiglobulin reaction (part I). Brit J Haemat 1969; 16:137-143.

18. Vyas GN, and Fudenberg HH. Evolutionary dissociation of gamma G2 and Gm(n) antigens. Vox Sang 1969; 16:233-236.

19. Vyas GN, Holmdahl L, Perkins, HA and Fudenberg HH. Serologic specificity of anti-IgA and its significance in transfusion. Blood 1969; 34:573-581.

20. Vyas GN and Fudenberg HH. Am(1), the first genetic marker of human IgA globulin. Proc Nat'l Acad Sci USA 1969; 64:1211-1216.

21. cr Vyas GN and Fudenberg HH. Isoimmune anti-IgA causing anaphytactoid reaction. Invited Editorial. N Engl J Med 1969; 280:1073.

22. Vyas GN, Levin AS, and Fudenberg HH. Intra-uterine isoimmunization caused by maternal IgA crossing the placenta. Nature 1970; 225:275-276.

23. Vyas GN and Fudenberg HH. Immunobiology of human anti-IgA: A serologic and immunogenetic study of immunzation to IgA in transfusion and pregnancy. Clin Genet 1970; 1:45-64.

24. Vyas GN and Shulman NR. Hemagglutination assay for antigen and antibody associated with viral hepatitis. Science 1970; 170:332-333.

25. cr Vyas GN. Antibodies to IgA causing anaphylactic reactions to small transfusions. American Association of Blood Banks Workshops on Transfusion Problems. 1970. Vol. II:21.

26. cr Fudenberg HH and Vyas GN. Human antibodies to human IgA: A clinical, serologic and immunogenetic study. Swedish Medical Research Council Symposium on Gammaglobulins. In: Wenner-Gren International Symposium Series. Oxford: Pergamon Press, 1970: 135-142.

27. Leikola J, Fudenberg HH, Vyas GN and Perkins HA. Isoantibodies to human IgM: Serologic and immunochemical investigations. J Immunol 1971; 106:1147-1153.

28. Leikola J and Vyas GN. Human antibodies to ruminant IgM concealing the absence of IgA in man. J Lab and Clin Med 1971; 77:629-638.

29. Schuh V, Vyas GN and Fudenberg HH. A study of a French family with a new variant of blood group A: Alae. Am J Hum Genet 1972; 24:11-17.

30. cr Fudenberg HH and Vyas GN. Current status of isoimmunization to IgA with special reference to allotype. In: Kaufman et al, eds. The Secretory Immunologic System. U.S. Government Printing Office, 1971: pp. 455-466.

31. Faulk WP, Vyas GN, Phillips CA and Fudenberg HH. Rhinovirus: Passive hemagglutination system. Nature 1971; 231:101-104.

32. cr Perkins HA, Payne RO, Vyas GN and Fudenberg HH. Nonhemolytic reactions to blood transfusion and organ transplantation. Proc. 12th Cong. Int. Soc. Blood Transf., Moscow 1969. Bibl Haemat No. 38, 1971; Part I, pp. 315-318.

33. cr Fudenberg HH, Vyas GN and Perkins HA. Clinical and immunological study of human anti-IgA. Proc. 12th Cong. Int. Soc. Blood Transf., Moscow 1969. Bibl. Haemat. No. 38, 1971; Part I, pp. 373-376.

34. cr Vyas GN and Perkins HA. Nonhemolytic blood transfusion reactions. EXCERPTA MEDICA. Proc. 7th Cong. World Federation of Haemophilia. Tehran, 1971; pp. 141-147.

35. Shaffer WE, Vyas GN, Shahed A, Chen E and Perkins HA. Comparison of counter-electrophoresis and hemagglutination inhibition tests for hepatitis-associated antigen. Vox Sang 1972; 22:366-370.

36. Vyas GN, Williams EW, Claus GGB and Bond HE. Hepatitis associated Australia antigen - protein, peptides and amino acid composition of purified antigen with its use in determining sensitivity of the hemagglutination test. J Immunol 1972; 108:1114-1118.

37. cr Gerin JL and Vyas GN. Hepatitis-associated (Australia) antigen (HBAg): Biophysical and immunochemical characteristics. In: Schmidt, ed. Progr. in Trans. and Transplant. Arlington, VA: Am. Assoc. Blood Banks, 1972: 167-190.

38. cr Vyas GN, Mason MA and Williams EW. Detection of hepatitis B antigen and antibodies by hemagglutination assay. In: Vyas et al., eds. Hepatitis and Blood Transfusion. New York: Grune and Stratton, Inc., 1972: 137-145.

39. cr Vyas GN. Discussion on Immunofluorescence and Immunoelectronmicroscopy. In: Vyas et

al., eds. Hepatitis and Blood Transfusion. New York: Grune and Stratton, Inc., 1972: 249.

40. cr Ibrahim AB, Adelberg S and Vyas GN. In vitro correlation of delayed hypersensitivity to hepatitis B antigen (HBAg) in guinea pigs. In: Vyas et al eds. Hepatitis and Blood Transfusion. New York: Grune and Stratton, Inc., 1972: 249-254.

41. Vyas GN. Hepatitis B antigen and antibodies: Detection by hemagglutination assay. Am J Med Tech 1972; 38:366-369.

42. Vyas GN, Rao KR and Ibrahim AB. Hepatitis-associated Australia antigen (HBAg): A conformational antigen dependent on disulfide bonds. Science 1972; 178:1300-1301.

43. Pai MKR, Zipursky A and Vyas GN. Antibodies to IgA in pregnancy and recipient Rh (D) immune globulin (human). Transfusion 1972; 12:394-399.

44. cr Perkins HA, Perkins SL, Chen E and Vyas GN. A latex-agglutination test for hepatitis-associated antigen (HBAg). In: Vyas et al, eds. Hepatitis and Blood Transfusion. New York: Grune and Stratton, Inc., 1972: 181-187.

45. Rao KR and Vyas GN. Hepatitis B antigen activity in protein subunits produced by sonication. Nature (New Biol.) 1973; 241:240-241.

46. cr Vyas GN, Bellone C, Hanes D and Likhite V. Immunoglobulin - A Review, in Trends in Hematology. Edited by Sen NN and Basu AK. Basu, Calcutta School of Tropical Medicine, Calcutta. 1975, pp. 141-177.

47. Perkins HA, Perkins SL and Vyas GN. Further evaluation of a latex-agglutination test for detection of hepatitis B antigen. Transfusion 1974; 14:287-290.

48. Vyas GN, Adelberg S and Perkins HA. Nonspecificity of hepatitis B antigen detected with ^{125}I-labelled antibody. Science 1973;182:1368-1369.

49. Ibrahim AB and Vyas GN. A simple inexpensive method for the in vitro leukocyte migration. Vox Sang 1973; 25:552-556.

50. Szmuness W, Prince AM, Freidman EA, Grady GF, Jacobs MJ, Mann MK, Ribot S, Shapiro FL, Stenzel K, Suki WN and Vyas GN. Hepatitis B infection in patients and medical staff of 15 hemodialysis units in the USA: A point-prevalence survey. J Am Med Assoc 1974; 227:901-906.

51. cr Vyas GN and Garratty G. contributed chapter on Adverse Effects of Blood Transfusion to Technical Methods and Procedures, American Association of Blood Banks, Washington, D.C., 1974; pp. 191-199.

52. Vyas GN, Ibrahim AB, Rao KR and Likhite V. In vitro transfer of cell-mediated immunity to hepatitis B antigen with RNA. Nature 1974; 247:377-378.

53. Vyas GN. Evidence against recessive inheritance of susceptibility to the chronic carrier state for hepatitis B antigen. Nature 1974; 248:159-160.

54. Rao KR and Vyas GN. Structure and activity of hepatitis B antigen (HBAg): 1. Studies on some conformational aspects and chemical modification of hepatitis B antigen. Microbios 1974; 9:239-245.

55. Rao KR and Vyas GN. Structure and activity of hepatitis B antigen (HBAg): 2. Amino acid composition of an active subunit of HBAg. Microbios 1974; 10:233-238.

56. Rao KR and Vyas GN. Hepatitis B surface antigen (HBAg): Tryptophan content and biological activity. J Gen Virol 1974; 54:571-573.

57. Berg JVR, Berntsen KO, Bjorling H, Holmstrom B and Vyas GN. Recovery of hepatitis B antibody from human plasma products separated by a modified Cohn fractionation. Vox Sang 1974; 27:302-309.

58. Ibrahim AB, Vyas GN and Prince AM. Studies on delayed hypersensitivity to hepatitis B antigen in chimpanzees. Clin Exp Immunol 1974; 17:311-318.

59. Vyas GN, Ibrahim AB, Rao KR and Schmid R. Tolerance to hepatitis B antigen: A concept for its termination with 'immune-RNA'. Life Sciences 1974; 15:261-268.

60. Ibrahim AB, Vyas GN and Perkins HA. Immune response to hepatitis B surface antigen. Infec and Immun 1975; 11:137-141.

61. Greenman RL, Robinson WS and Vyas GN. A sensitive test for antibody against the hepatitis B core antigen (anti-HBc). Vox Sang 1975; 29:77-80.

62. Rao KR and Vyas GN. Biochemical characterization of hepatitis B surface antigen in relation to serologic activity. J of Biol Stand 1975; 4:295-304.

63. cr Vyas GN, Schmid R, Ibrahim AB and Rao KR. Specific immunotherapy proposed for hepatitis B virus infection. Proceedings of the IABS Symposium on Viral Hepatitis, Milan, Italy, December 16-19, 1974. Develop Biol Standard (S. Karger, Basel 1975);Vol. 30:350-356.

64. Vyas GN, Perkins HA, Yang Yee-mui and Basantani GK. Healthy blood donors with selective absence of immunoglobulin A: Prevention of anaphylactic transfusion reactions caused by antibodies to IgA. J Lab and Clin Med 1975; 85:838-842.

65. Roberts IM, Bernard C, Vyas GN and Mackay IR. T-cell dependence of immune response to hepatitis B antigen in mice. Nature 1975; 254:606-607.

66. Vyas GN, Roberts IM, Mackay IR and Gust ID. Immunologic mechanisms in hepatitis B assayed by antigen-binding lymphocytes. Am J Med Sci 1975; 270:241-246.

67. Magnius L, Kaplan L, Vyas GN and Perkins HA. A new virus specified determinant of hepatitis B surface antigen. Acta Path Microbiol Scand Sect B 1975; 83:295-297.

68. lc Vyas GN, Basantani GK and Perkins HA. Hepatitis in selective IgA deficiency? Br Med J 1975; i:736.

69. Prince AM, Szmuness W, Mann MK, Vyas GN, Grady GF, Shapiro FL, Suki WN, Friedman EA and Stenzel KH. Hepatitis B "immune" globulin: Effectiveness in prevention of dialysis-associated hepatitis. A preliminary report of a cooperative multiceneter trial. N Engl J Med 1975; 293:1063-1067.

70. Leikola J, Gudmunsson S, Hanson LA, Koistinen J, van Loghem E, Ring J, Rudowski W, Vyas G. Transfusion reactions caused by IgA and other plasma proteins. Vox Sang 1975; 31:154-158.

71. Vyas GN, Roberts I, Peterson DL and Holland PV. Nonspecific test reactions for antibodies to hepatitis B surface antigen in chronic HBsAg carriers. J Lab and Clin Med 1977; 89:428-432.

72. lc Vyas GN and Perkins HA. Potent anti-IgA in blood donors lacking IgA. Transfusion 1976; 16:289-290.

73. Vyas GN and Roberts IM. Radioimmunoassay of hepatitis B core antigen and antibody with autologous reagents. Vox Sang 1977; 33:369-372.

74. Grady GF, Marshall M, Kaplan M and Vyas GN. Hepatitis B core antigen and antibody (anti-HBc) in chronic hepatitis and primary bilary cirrhosis. Gastroenterology 1977; 72:590-593.

75. Peterson DL, Roberts IM and Vyas GN. Identical amino acid sequence of two major component polypeptides of HBsAg. Proc Natl Acad Sci, USA 1976; 74:1530-1534.

76. Tanno H, Fay OH, Finder J, Igartua EB, Roncoroni ME, Gerety RJ and Vyas GN. The role of the hepatitis B virus infection in patients with chronic hepatitis in Argentina. J Med Virol 1978; 3:119-123.

77. Prince AM, Szmuness W, Mann MK, Vyas GN, Grady GF, Shapiro FL, Suki WN, Friedman EA Avram MM and Stengel KH. Hepatitis B immune globulin: Final report of a multicenter trial of efficacy in prevention of dialysis-associated hepatitis. J Infec Dis 1978; 137:131-144.

78. Vyas GN, Peterson DL, Townsend RM, Damle SR and Magnius LO. Hepatitis B "e" antigen: An apparent association with lactate dehydrogenase isozyme-5. Science 1977; 198:1068-1070.

79. Grady GF, Lee VA, Prince AM, Gitnick GL, Fawaz KA, Vyas GN, Levitt MD, Senior JR, Galambos JT, Bynum TE, Singleton JW, Clowdus BF, Akdamar K, Aach RD, Winkelman EI, Schiff GM and Hersh T. Hepatitis B immune globulin for accidental exposures among medical personnel. Final Report of a multicenter controlled trial. J Infect Dis 1978; 138:625-638.

80. cr Vyas GN, Comparini SO, Overby LR, Fields HA and Maynard JE. Nature of response to HBeAg in hepatitis B, Chapter 18 in Viral Hepatitis. Edited by Vyas GN, Cohen SN and Schmid R. Franklin Institute Press, Philadelphia, PA. 1978, pp. 189-191.

81. cr Peterson DL, Chien DY, Vyas GN, Nitecki D and Bond HE. Characterization of polypeptides of HBsAg for the proposed "U.C.-Vaccine" for hepatitis B. Chapter 54 in Viral Hepatitis. Edited by Vyas GN, Cohen SN and Schmid R. Franklin Institute Press, Philadelphia, PA. 1978, pp. 569-573.

82. cr Vyas GN. Open discussion of new information and invited discussion of unanswered questions. Organized and moderated by Girish N. Vyas, Chapter 58 in Viral Hepatitis. Edited by Vyas GN, Cohen SN and Schmid R. Franklin Institute Press, Philadelphia, PA. 1978, pp 593-625.

83. lc Chien DY and Vyas GN. Quantitative correlation of the hepatitis B surface and 'e' antigens. N Engl J Med 1978; 299:1253-1254.

84. Tong MJ, Weiner JM, Ashcavai MW, Redeker AG, Comparini SO and Vyas GN. A comparative study of hepatitis B viral markers in Asian and non-Asian family members of patients with hepatitis B surface antigen positive hepatocellular carcinoma or with chronic hepatitis B infection. J of Infec Dis 1979; 140:506-512.

85. Tong MJ, Weiner JM, Ashcavai MW and Vyas GN. Evidence for clustering of hepatitis B virus infection in families of patients with primary hepatocellular carcinoma. Cancer 1979; 44:2338-2342.

86. cr Stevens CE and Vyas GN. Viral Hepatitis. In: Rudolph's Pediatrics, 17th Edition. New York: Appleton-Century Crofts, 1982: 616-621.

87. cr Vyas GN, Cohen SN and Schmid R. Viral Hepatitis update. Preface to Second Printing in Viral Hepatitis. Edited by Vyas GN, Cohen SN and Schmid R, Franklin Institute Press, Philadelphia, PA, 1979; pp. xiii.

88. Milich DR, Vyas GN, Holland PV, Courouce-Pauty AM and Sampliner RE. Plasmapheresis of HBsAg carriers. Acta Haemat. Pol. 1980; XL 73-78.

89. Vyas GN, and Schmid R. Immunodiagnosis of viral hepatitis. West J Med 1980; 133:241-242.

90. cr Vyas GN. Biology, diagnosis and prophylaxis of viral hepatitis. Proc. of WHO/ICMR GEA Workshop on Hepatitis, Indian Council of Medical Research. New Delhi, 1979, pp. 7-11.

91. Milich DR, Papas E, Bhatnagar P and Vyas GN. Interactions between polymerized human albumin, hepatitis B surface antigen and complement; I. Binding of polyalbumin to C1q. J Med Virol 1981; 7:181-192.

92. Milich DR, Papas E, Bhatnager P and Vyas GN. Interactions between polymerized human albumin, hepatitis B surface antigen and complement; II. Involvement of C1q in or near the hepatitis B surface antigen receptor for polyalbumin. J Med Virol 1981; 7:193-204.

93. Milich DR, Gottfried T and Vyas GN. Characterization of the interaction between polymerized human albumin and hepatitis B surface antigen. Gastroenterology 1981; 81:218-225.

94. Brechot C, Hadchouel M, Scotto J, Fonck M, Potet F, Vyas GN and Tiollais P. State of hepatitis B virus DNA in hepatocytes of patients with hepatitis B surface antigen-positive and -negative liver diseases. Proc Natl Acad Sci USA 1981; 78:3906-3910.

95. Chein MC, Tong MJ, Lo KJ, Milich DR, Vyas GN and Murphy B. A study of hepatitis B viral markers in patients with primary hepatocellular carcinoma in Taiwan. J Natl Cancer Inst 1981; 66:475-479.

96. cr Vyas GN. Molecular immunology of hepatitis B surface antigen (HBsAg). In: Maupas P and Guesy P, eds. Hepatitis B Vaccine. New York: Elsevier, 1981: 227-237.

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98. Baxi AJ, Bhatia HM, Butta RN, Jacob J, Joshi SH, Kulkarni KV, Nayak NC, Pal SR, and Vyas GN. Comparative data on the detection of hepatitis B surface antigen by six centers. Indian J Med Res 1981; 73:255-257.

99. Blum HE and Vyas GN. Non-A, Non-B hepatitis: A contemporary assessment. Haematologia 1982; 15:153-173.

100. Vyas GN and Perkins HA. Non-B posttransfusion hepatitis associated with hepatitis B core antibodies in donor blood. N Engl J Med 1982; 306:749-750.

101. Bhatnagar PK, Papas E, Blum HE, Milich DR, Niecki D, Karel MJ and Vyas GN. A synthetic analogue of hepatitis B surface antigen sequence 139-147 produces immune response specific

for the common a determinant. Proc Natl Acad Sci USA 1982; 79:4400-4404.

102. Ganem D and Vyas GN. Laboratory diagnosis of viral hepatitis. Geriatrics 1983; 38:97-108.

103.cr Blum HE and Vyas GN. Laboratory diagnosis in differentiation and epidemiology of hepatitis types A, B and non-A, non-B. Consultant. September 1983.

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ANNOTATION OF SIGNIFICANT PUBLICATIONS

The publication record consists of 12 edited books and monographs in the field of laboratory medicine. A total of 230 published articles include 157 original papers in peer-reviewed journals, 60 Chapters and Reviews, and 13 letters or editorial correspondence. Papers published in the most prestigious journals include: Science (#24, 42, 48, 78, 97, 222); Nature (# 22, 31, 45, 52, 53, 65); N Engl J Med (21, 69, 100, 104, 160, 166,176,196); Proc Natl Acad Sci USA (# 20, 75, 94, 101, 107).

SUMMARY OF CURRENT RESEARCH INTEREST/PROGRAM

From a service dispensing blood products for transfusion to UCSF patients, our blood bank is established as a national leader in the evolving discipline of Transfusion Medicine. With NHLBI grants and contracts totaling $20 million (1985-2000), our research and training program has played a pivotal role in accomplishing the mission of transfusion safety, viz. post-transfusion hepatitis reduced from 1:5 before 1970 to <1:1000,000 after 2001 by continued improvements in screening tests (EIA and NAT).

UCSF's pivotal role in prevention of hepatitis B virus (HBV) infection by vaccination with the HB-surface antigen (HBsAg) and passive prophylaxis with hyperimmune globulin against HBsAg (HBIG) form the foundation for our innovative approach to immunoprophylaxis against HIV-1 infection. In 2001 we embarked upon developing an HIV envelope vaccine candidate (HIVenv) predicated upon growing the virions from plasma of blood donors with acute HIV-1 infection diagnosed by positive nucleic acid amplification test (NAT) without detectable antibodies. We postulate that the genetic diversity of HIVenv would elicit broadly neutralizing antibodies (bnAb) for protection against HIV-1 transmitted in humans. The bnAb against HIVenv will notably enable a practical distinction between immunity and infection, which is marked by high level of antibodies to the gag proteins (anti-p24).

The plasma-derived HIV-1 (PHIV) is genetically homogeneous with CCR5 phenotype, termed founder-transmitted virus, which can be readily expanded in pooled human blood mononuclear cells (PBMC) to obtain needed amounts of purified virions. Such virions are orthogonally inactivated with beta-cyclodextrin and Benzonase to obtain conformationally conserved envelope proteins as a macromolecular subunit of HIV (mHIVenv) devoid of virion RT, core proteins, and nucleic acids of viral/host origin. The safety and immunogenicity of HIVenv concentrated with lipoparticles highly expressing DC-SIGN will be an ideal immunogen for vaccinating against HIV-1 transmitted in humans. Such an approach will overcome the continuing failures of clonally-derived HIV DNA (free and vectored) and monomeric HIV envelope proteins in inducing bnAb against HIV-1 transmitted in the population.

The resulting HIV-env vaccine candidate will also enable immunization of selected blood donors with CCR5-delta 32 homozygocity to enable plasmapheresis of immunized donors and provide hyperimmune globulin specific for HIVenv (HIVIGenv). Thus, akin to HBV prophylaxis, we envision ultimate availability of safe and effective means for passive-active immunization for perinatal prevention of mother to child transmission of HIV-1 infection. This program may be a contrarian alternative to the established programs of NIH and other philanthropies that have spent over 20 billion dollars in last 20 years without producing a licensed product for prevention and treatment of HV-1 infection.