Darrow
file: AIDS (KSOI)
11/2/82
DVD, CID, CDC

ACQUIRED IMMUNODEFICIENCY SYNDROME: VIRAL STUDIES

I. Case-Control Study

A. Serum antibodies	Cases	CONTROLS Friend	VD Clinic	Priv. Prac.
CMV (IHA) ≥ 8	50/50(100)*	19/19(100)	59/61(97)	36/37(97)
MEAN	3327	3795	1105	1046
EBV (VCA-IgG) ≥ 80	11/49(22)	1/19(5)	3/60(5)	2/27(5)
MEAN	410	223	186	193
Hep A(IgG)	42/49(86)	12/19(63)	34/61(56)	20/37(54)

B. Isolation of CMV

1. Cases 14/50 (29%)

   Controls 9/117 (8%)

2. Restriction enzyme analysis of CMV strains from 9 AIDS patients showed that all strains had different DNA patterns, except for isolates from two unreleated patients. However, the presence of a possibly unique DNA segment, somehow involved in the etiology of this syndrome, cannot be ruled out by this technique.

II. Intensive investigation of infectious etiology of AIDS

KS - 7 patients

LAS - 7 patients Lymphadenopathy Syndrome

OI - 5 patients

Repeat cultures will be obtained from available patients to study CMV shedding, CMV strain variation, changes in serum antibody to CMV and other viruses, conduct immunoassays (FA, IEM, RIA) for antigens in tissues and inoculated cultures using IgG from KS patients in remission, from active AIDS patients, and their frequent partners.

*No. positive/No. tested(% positive)

III. FACTOR VIII, CRYOPRECIPITATE PREPARATIONS

A. EM, IEM of material concentrated using columns:

No unique mammalian viruses present (particles with morphology resembling hepatitis B surface antigen present in one preparation, but the particles were not aggregated with HBV antibody); many bacteriae and flagellae present and probably also bacteriophages. (Further studies in progress using original and concentrated materials.)

B. CMV cDNA probe of FVIII revealed no evidence of CMV nucleic acid.

IV. FA staining of tissues from AIDS patients, in collaboration with Division of Host Factors, using fixed tissues and touch preparations of nodes, revealed no viral antigens.

LYMPHADENOPATHY STUDIES

Completed case-control Lymphadenopathy (LN) record review in New York City; increase of unexplained LN was documented.

DATA PROCESSING AND STATISTICAL ACTIVITIES

I. Epidemiological and laboratory data sets being merged.

II. Specimen and test result data tracking and reporting system developed.

III. Statistical analysis.

TABLE 3. Antibody Prevalence Rates and Mean Titers of 17 Microbial Agents, Case and Control Single Serum Samples, Kaposi Sarcoma/Opportunistic Infections Investigation, 1981

	CASES	CONTROLS		
AGENT		FRIEND	VD CLINIC	PRIVATE PRACTICE
	Rate (%)	Rate (%)	Rate (%)	Rate (%)
Cytomegalovirus				
CF ≥1:8	50/50 (100)	19/19 (100)	60/61 (98)	36/37 (97)
Mean	66	53	52*	45
IHA ≥1:8	50/50 (100)	19/19 (100)	59/61 (97)	36/37 (97)
Mean	3327	3795	1105	1046
Herpes Simplex Viruses				
CF ≥1:8	50/50 (100)	18/19 (95)	56/61 (92)	34/37 (92)
Mean	31	36	27	26
IHA Type I ≥1:8	50/50 (100)	18/19 (95)	58/61 (95)	36/37 (97)
Mean	2048	2369	1428	1541
IHA Type II ≥1:8	49/50 (98)	18/19 (95)	55/61 (90)	36/37 (97)
Mean	428	214	180	251
Epstein Barr Virus				
VCA-IgG ≥1:10	49/49 (100)	19/19 (100)	60/60 (100)	37/37 (100)
VCA-IgG ≥1:800	11/49 (22)	1/19 (5)	3/60* (5)	2/37* (5)
Mean	410	223*	186*	193*
VCA-IgM ≥1:10	2/32 (6)			
EBNA ≥1:10	31/31 (100)			
EA ≥1:10	11/31 (35)	4/17 (23)	11/44 (25)	3/7 (43)
Varicella Zoster				
antibody ≥1:2	28/37 (76)	17/17 (100)	53/58 (91)	34/35* (97)
Mean	5	9	6	7
Respiratory Syncytial Virus				
CF ≥1:8	26/38 (68)	17/18 (94)	42/58 (72)	25/35 (71)
Mean	5	8	5	5
Adenovirus				
CF ≥1:8	35/38 (92)	18/18 (100)	52/57 (91)	32/35 (91)
Mean	17	20	15	19
Chlamydia				
CF ≥1:8	17/33 (52)	12/18 (67)	36/54 (67)	23/34 (68)
Mean	4	5	5	6
Hepatitis B				
Surface markers (-)	3/46 (6)	2/18 (11)	9/59 (15)	3/37 (8)
HBsAg (+)	1/46 (2)	0/18 (0)	3/59 (5)	3/37 (8)
HBsAg (-), HBsAb (+), HBcAB (+)	35/46 (76)	14/18 (78)	43/59 (73)	28/37 (76)
HBcAb (+) only	7/46 (15)	2/18 (11)	4/59 (7)	3/37 (8)
Hepatitis A				
IgG	42/49 (86)	12/19 (63)	34/61* (56)	20/37* (54)
Toxoplasma gondii				
IIF ≥1:16	16/49 (33)	7/18 (39)	22/59 (37)	18/37 (49)
Entamoeba histolytica				
IHA ≥1:256	3/48 (6)	0/19 (0)	4/60 (7)	1/36 (3)
Aspergillus flavus (Antigen)	0/50 (0)	0/19 (0)	0/60 (0)	0/37 (0)
fumigatus (Antigen)	0/50 (0)	0/19 (0)	0/60 (0)	0/37 (0)
niger (Antigen)	0/50 (0)	0/19 (0)	0/60 (0)	0/37 (0)
Candida albicans				
Agar gel test	2/47 (4)	2/19 (11)	1/59 (2)	0/37 (0)
Latex agglutination	7/47 (15)	7/19 (37)	16/59 (27)	11/37 (30)
Syphilis				
MHA ≥1+	35/50 (70)	6/19* (32)	25/61* (41)	11/37* (30)
RPR ≥1:1	12/46 (26)	2/19 (11)	15/61 (25)	6/37 (16)

*Significant at $p<0.05$

9/20/82 M. ROGERS

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AIDS SPECIAL VIRAL STUDIES

			Th/Ts	Buffy Coat	Urine	Semen	Stool	Throat	Saliva	Other
1.	DV-0387	KS#1	0.9	X FA+	X	X +CMV	X	X[c]	X	Sputum[c]
2.	JP-0424	KS#2	0.7	X	X		X	X	X[c]	
3.	RS-0442	KS#3	2.1	X	X			X	X[c]	
4.	CS-0443	KS#4	2.3	X	X	X	X	X		Sputum
5.	EF-0444	LAS#1	0.6	X	X	X +CMV	X	X[c]		Sputum
6.	CG-5030	LAS#2	0.7	X	X	X +CMV		X	X[c]	
7.	JP-0445	KS#5	1.4	X	X			X +CMV		
8.	JS-0446	OI#1	0.5	X	X[c]	X[c]	X	X +CMV		
9.	IH-5029	LAS#3	0.6	X	X	X	X +Adeno	X		Sputum
10.	JT-0447	LAS#4	0.8	X	X	X +CMV	X ±Adeno	X		
11.	RK-0448	KS#6	1.2	X	X	X		X		Sputum
12.	RB-0449	LAS#5	0.6	X	X +CMV			X		Sputum +CMV
13.	HC-0450	OI#2	0.7	X FA+ +CMV	X +CMV		X	X		Sputum +CMV
14.	JS-0451	OI#3	0.2	X FA+	X		X	X		Sputum
15.	JM-0452	LAS#6	1.1	X FA+ +CMV	X	X		X	X +CMV	
16.	KG-0453	LAS#7	1.6	X	X	X	X			Sputum
17.	GD-0057	KS#7		X FA+	X			X		
18.	TL-0454	OI#4	0.7	X	X			X[c]		Sputum[c]

c = Contamination with yeast or bacteria.
FA+ = Direct fluorescent antibody test on original specimen positive for CMV antigen.
Other + indicate isolation of indirected agent from specimen.

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CYTOMEGALOVIRUS INFECTION IN AIDS SPECIAL STUDY PATIENTS

Specimen Type	Total No. Studied	CMV Isolation No. CMV Pos./No. Tested	FA/EM Tests No. CMV Pos./No. Tested
Buffy Coat WBCs	18	2/18	3/16
Urine	18	2/17	0/15
Semen	10	4/9	0/5
Stool	10	0/10*	0/10
Throat	18	2/15	0/13
Saliva	4	1/1	0/0
Sputum	10	2/8	0/6
TOTAL PATIENTS	18	9/18	3/18
TOTAL SPECIMENS	88**	13/78	3/65***

*Adenovirus isolated from 2 stool specimens
**Ten specimens contaminated with yeast or bacteria (unable to perform viral cultures).
***CPE positive specimens not tested by FA/EM.

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AIDS SPECIAL VIRAL STUDIES
Virus Isolation from Plasma Leukocytes (Buffy Coat)

Date Collected			T-Cell HSB	T-Cell CEM	B-Cell NC^{37}*	HELF	HELF Co-Cultivation	Swiss Mice
5/11/82	DV-0387	KS#1	-**	-	-	-	-	Inoculated and under observation
5/24/82	JP-0424	KS#2	-	-	-	-	-	
6/8/82	RS-0442	KS#3	-	-	-	-	-	
6/15/82	CS-0443	KS#4	-	-	-	-	-	
6/22/82	EF-0444	LAS#1	-	-	±***	-	-	
7/13/82	CG-5030	LAS#2	-	-	-	-	-	
7/13/82	JP-0445	KS#5	-	-	-	-	-	
7/20/82	JS-0446	OI#1	-	-	-	-	-	
7/27/82	IH-5029	LAS#3	-	-	-	-	-	
7/27/82	JT-0447	LAS#4	-	-	-	-	-	
8/3/82	RK-0448	KS#6	-	-	-	-	-	
8/10/82	RB-0449	LAS#5	-	-	-	-	-	
8/17/82	HC-0450	OI#2	-	-	-	+CMV	-	
8/24/82	JS-0451	OI#3	-	-	-	-	-	
8/31/82	JM-0452	LAS#6	-	-	-	+CMV	-	
8/31/82	JG-0453	LAS#7	-	-	-	-	-	
8/31/82	GD-0057	KS#7	-	-	-	-	-	
9/14/82	TL-0454	OI#4	-	-	-	-	-	

*Adventitious retrovirus contamination of NC^{37} cell line used for culture of cases 1-9.
**Results of isolation attempts: Negative(-), Equivocal(±), or Positive (+).
***Retrovirus detected by EM.

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AIDS SPECIAL VIRAL STUDIES
Results of Virus Serology

				CMV Antibody		HSV Antibody			EBV Antibody		
				CF	IHA	CF	IHA1	IHA2	EBV-VCA	EBNA	EBV-EA
1.	DV-0387	KS#1	5/11/82	64	2048	16	32000	1024	QNS	QNS	QNS
2.	JP-0424	KS#2	5/24/82	32	1024	8	512	512	100	50	<50
3.	RS-0442	KS#3	6/8/82	32	8192	16	16000	512	200	50	<50
4.	CS-0443	KS#4	6/15/82	8	256	16	8192	512	400	50	<50
5.	EF-0444	LAS#1	6/22/82	8	32000	<8	32	<8	<50	<50	<50
6.	CG-5030	LAS#2	7/13/82	128	32000	32	2048	4096	400	100	100
7.	JP-0445	KS#5	7/13/82	128	32000	16	1024	1024	200	200	<50
8.	JS-0446	OI#1	7/20/82	16	2048	8	128	512	100	50	<50
9.	IH-5029	LAS#3	7/27/82	32	256	8	256	32	200	50	<50
10.	JT-0447	LAS#4	7/27/82	32	2048	8	1024	1024	800	<50	<50
11.	RK-0448	KS#6	8/3/82	64	32	8	32	1024	400	100	50
12.	RB-0449	LAS#5	8/10/82	64	256	<8	16	16	P*	P	P
13.	HC-0450	OI#2	8/17/82	16	64	8	8	64	200	<50	<50
14.	JS-0451	OI#3	8/24/82	16	128	8	128	64	P	P	P
15.	JM-0452	LAS#6	8/31/82	64	16000	16	256	512	400	50	<50
16.	JG-0453	LAS#7	8/31/62	256	8192	64	32000	2048	1600	50	<50
17.	GD-0057	KS#7	8/31/82	64	32000	16	4096	1024	1600	QNS	QNS
18.	TL-0454	OI#4	9/14/82	16	128	16	512	256	400	<50	<50
			GMT	37	1585	12	562	304	288	47	27
			Rate (%)	18/18(100%)		18/18(100%)			14/15(93%)		

* = results pending

Effect?

Effect?