Mss.Ms.Coll.144 Baruch Blumberg Papers
Series II

A Study of the Occurrence of Various Inherited and Acquired Antigens and Antibodies in the Blood of Patients with Hemophilia Who have Been Seen at the Oxford Haemophilia Centre - 1972 - 1.0 folder - Box 147 - Folder 5

1972

A study of the occurrence of various inherited and acquired antigens and antibodies in the blood of patients with hemophilia who have been seen at the Oxford Haemophilia Centre.

Baruch S. Blumberg

Material and methods:

The following antigens and antibodies known to occur in the sera of transfused humans will be studied, or, have already been studied.

1)	RBC antigens ABO	anti-RBC antibodies
	" " Rh	
2)	Gm phenotypes	anti-Gm
3)	HLA-antigens	anti-HLA
4)	Ag (lipoprotein) antigens	anti-Ag
5)	a) Au	a) anti-Au
6)	b) specificities a, d, y, f, [1]	b) specificities a, x, y, f, [1]
7)	Recently discovered serum precipitins	
	a) Fx	anti-Fx
	b) Hu	anti-Hu
	c) Js	anti-Js
	d) Te	anti-Te
	e) Um	anti-Um
	f) There are 11 others	also antibodies
8)	Presence of anti-factor VIII, factor IX	

Possible additional studies

1. anti-RBC antibodies
2. Additional RBC types

3. serum protein polymorphism

4. red blood cell polymorphisms yes

Notes 1. Available from patient charts

2. These have been done on about 100 patients by Dr. P. Kerroff of O.H.C.

3. To be done on some or all patients at Lab. of Gen., Oxford.

4. To be done by P. Kerroff, O.H.C. or A. Vierucci, Florence.

5. This has been done by A. Kurtz, R. I.

6. Specificities determined by S. Mazzur, ICR.

7. To be done by BSB and Hie-Won Hann, ICR

8. Already available O.H.C. (#124a)

There are 124 items coded on the O.H.C. punch cards for each patient. Most of these will be useful for comparison with the measured factors. Items of possibly special immediate interest include the following. These could be eventually used for comparison.

1) Name UOH No. NOC No.

2) Age 1-15

3) Severity 1a-3a

4) Family history of bleeding 4a

5) Blood group ABO 27-29

Rh 30-21a

6) Treatment (whole blood; plasma; cryo; humans, AHG; other AHG etc.

7) Inhibitor detected 124a

8) History of jaundice

9) Complications

others

Items on coding sheet (for eventual machine storage and retrieval)

1. ICR No.
2. Lab of Genetics No.
3. V.O.H. No.
4. N.O.C. No.
5. Name
6. Date of birth.
7. Nationality.
8. ABO
9. Rh
10. Anti WBC antibodies
11. Gm phenotype
12. Anti-Gm phenotype (0-1 present-not present)
13. HLA antigens
14. HLA antigen with which reactions were tested.
15. Anti-HLA present or absent.
16. Specificity of anti-HLA
17. Panel WBC used to test presence and specificity of HLA
18. Ag antigen
19. Antisera used to test for Ag.
20. Anti-Ag presence or absence.
21. anti-Ag specificity
22. panel sera used to test anti-Ag.
23. Au presence or absence.
24. Specificity of Au
25. Anti-Au presence or absence
26. Specificity of Anti-Au

27. Antisera used to test for anti-Au

28. Reaction with Fx antisera used

29. Reaction with anti Fx sera used

30. Reaction with etc.

31. Items from clinical chart (see above).

Objectives:

1. To test several hypotheses related to the relation of HLA type and the immune reaction in individuals subjected to antigenic stimulation.

2. To test hypotheses related to relation of anti-Au, and Au to anti-Gm and Gm.

3. To make observations on the relation of the various serum and cell factors to each other and the recorded clinical factors.

4. To determine if there is a relation between the formation of anti-AHG antibodies and any of the measured factors.

Specific hypotheses to be tested.

a) The formation of antibodies is related to HLA type. (Null Hypothesis) There is no difference in the distribution of HLA types between indiniduals who do and who do not form antibodies to particular antigens.

Notes: A matrix of this kind will be formed for each kind of antibody of a particular specificity. An m1 x m2 matrix will be tested for heterogeneity.

	1	2	3	4	5	6	7	8	9	10	11	12	13
AB-1													
AB-2													
AB-3													
AB-4													

Each species of antibody will be tested in order (i.e. first against Au, then Gm, etc.) The observations for the first species of antibody will then be used as a hypothesis to be tested in the next series of antibodies.

b) Hypothesis generated by 3 previous studies (see Blumberg et al Nature 236:28, 1972) There is an association between the formation of anti-Au and anti-Gm. (Null hypothesis, they are random with respect to each other.)

c) [generated by previous studies] Antibodies to Au form more commonly in patients who are homozygotes for Gm.

d) There is no correlation between formation of anti-Au and anti-Ag. (previous study)

e) There is no correlation between anti-Gm and anti-Ag (previous study) (i.e. they are randon with respect to each other)

f) There is a relation between anti-Au specificities and anti-Gm specificities. (Null hypothesis: antibodies are random with relation to each other. Matrix will be developed of this kind.)

		anti-Au				
		ay	ax	ad	ayf	adf
anti-Gm	1					
	1,2					
	1,35					
	1,35					
	1,35					

x^2 with n degrees of freedom.

g) There is a relation between anti-HLA and anti-Au.

h) There is a relation between anti-HLA and anti-Ag

i) There is a relation between anti-HLA and anti-Gm

j) There is a relation between anti-HLA and anti-RBC (if these are done)

k) This is an association of anti-AHG (Factor VIII) and Gm homozyosity. This observation was made on Dutch hemophilia patients. There is a correlation between anti-AHG and each of the factors measured. (qualitative study)

l) There is a correlation between initial AHG level and each of the factors measured. (quantitative study)

m) Other clinical correlations (i.e. family history, sibs with disease.)

1. Correlation between nature of infusions received and development of antibodies [16, 97, 98, 99, 100, 91a, 92a, 93a.]

2. Correlation between history of jaundice and presence of anti-Au as well as other antibodies.

Title: A study of the occurrence of various inherited and acquired antigens and antibodies in the blood of patients with ~~Diabetes~~ haemophilia who have been seen at the Oxford Haemophilia Centre.

Material and methods:

The following antigens and antibodies known to occur in the sera of transfused humans will be studied, or, have already been studied.

1) RBC antigens ABO (1) & anti-RBC antibodies
   " " Rh (1)
2) Gm phenotypes (2) anti-Gm (2)
   ~~anti-Gm~~
3) HLA- antigens (3) anti-HLA (3)
4) Ag (leptoprotein) antigen (4) anti-Ag (4)
5) a) Ag (~~specifeter a,x,y,f~~) (5) a) anti-Ag (~~specifeter a,x,y,f~~) (5)
   b) b) specifeter a, y, f, [L] (6) b) specifeter a, x, y, f, [L] (6)

6) Recently discovered ~~as~~ serum properties (7)
   a) Fx anti-Fx
   b) Hu anti-Hu
   c) Js anti-Js
   d) ~~Aberrant~~ Te ~~anti-Aberrant~~ anti-Te
   e) Vm anti-Vm
   f) There are 11 others also antibodies.
7) Presence of anti-factor ~~XIII~~ VIII, factor IX (8)

Possible additional studies

1. anti-RBC antibodies
2. additional RBC types.
3. Serum protein polymorphism.
4. Red blood cell polypeptides. ~~yes~~

Notes: (1) Available from patient charts
(2) These have been done on about 100 patients by Dr. P. Mercuff of O.H.C.
(3) To be done on some or all patients at ~~lab~~ of Gen, Okla.
(4) To be done by P. Mercuff, O.H.C. or A. Vercucci, Florence.
(5) This has been done by D. Kurtz, P.I.
(6) Specific ~~factor~~ determined by B. Hoyer, ICR.
(7) To be done by BSB and Harrison Hart, ICR.
(8) Already available O.H.C. (#124a)

There are 124 items coded on the O.H.C. punch cards for each patient. Most of these will be useful for comparison with the research factors. Items of possibly special research interest include the following. These could be eventually used for comparison

1) Name Coll No. NOC No.
2) Age 1-15
3) Sheaty 19-3a
4) Family Hx bleeding 4a
5) Blood group ABO 27, → 29
Rh 30, 21a
6) Treatment (whole blood, plasma; cryo; AHG, human; other AHG. etc.
7) Inhibitor detected 124a
8) ~~Hx~~ of jaundice.
9) complications

others.

(for machine storage & retrieval)

1. ICR No.
2. Lab of Genetics No.
3. V.O.H No.
4. N.O.C. No.
5. Name
6. Date of birth.
7. Nationality.
8. ABO
9. Rh
10. auto WBC antibodies.
11. Gm phenotype
12. auto-Gm phenotype (0-1 present not present)
13. HLA antigens
14. HLA antisera & what reactions were tested.
15. Ag antigen auto-HLA. present or absent
16. specificity of auto-HLA.
17. panel WBC used to test presence of (+specificity) on HLA
18. Ag antigen
19. antisera used to test for Ag.
20. auto Ag ; present or absent.
21. auto Ag specificity
22. panel sera used to test auto Ag.
23. Au present or absent
24. ~~auto Au~~ Specificity of Au
25. auto Au ; present or absent.
26. specificity of auto-Au.
27. auto sera used to test for auto Au
28. Reactions & Fx Antisera used
29. " " auto Fx sera used
30. etc.

31. Items from dual check (see above).

~~Objects~~

Objectives: ① To test several hypotheses related to relation of HLA type and the immune reaction in individuals subjected to antigenic stimulation ② and to test hypotheses related to relation of anti-Ag, and Ag to anti-Gm and Gm.

③ and to make observations on the relation of the various factors to each other including the clinical factors.

④ To determine if there is a relation between the formation of anti-~~for~~ AHG antibodies and any of the measured factors.

Specific hypotheses to be tested.

a) The formation of antibodies is related to HLA type. (Null hy. There is no difference ~~between each of the~~ in the distribution of HLA types between individuals who do and who do not form antibodies to particular antigen.

Notes: A number of this kind will be form for the formation of each kind of antibody of particular specificity. An $n_1 \times n_2$ matrix will be tested for homogeneity

HLA- type

	1, 2, 3, 4 . . .	9, 10, 11, 12 13
~~For~~ AB-1		
~~Gm~~ AB-2		
AB-3		
AB-4		

Each species of antibody will be tested in order (i.e. first agent Ag, then Gm, etc). The observations for the first species of antibody will then be used for as a hypotheses to be tested in next series of antibodies.

b) Hypotheses [generated by previous studies 3 previous studies (see Steinberg and Nature)

There is an association between the presence of anti-Aa and anti-Gm.
(null hypothesis: they are random with respect to each other)

c) [Generated by previous studies] antibodies of the form more commonly in patients who are heterozygotes for Gm.

d) There is no correlation between presence of anti-Aa and anti Ag.
(previous study)

e) There is no correlation between anti Gm and anti Ag (previous study)
(i.e. they are random with respect to each other)

f) Relation of anti- There is a relation between anti-Aa specificities and anti-Gm specificities. (null hyp: they are random with relation to each other. Mather will develop this hyp.

anti-Gm \ anti-Aa	ay	ax	ad	ayf	adf
1					
1,2					
1,35					
...					
"					

χ^2 with n degrees of freedom.

χ^2

g) similar for anti-HLA, anti-Aa
h) " " anti " " Ag
i) " " " " Gm
j) " " " anti-RBC (if these are done)
k) There is an association of anti AHG (Factor VIII) and Gm homozygosity. This observation was made on British hemophilia patients.

g) There is a correlation between AHG and each of the factors measured.

h) There is a correlation between initial AHG level and each of the factors measured.

- ~~other hypothesis~~

hi) other clinical correlates (i.e. family hx, roles & disease.

1. Correlation between ~~treat~~ natural of ~~infusion~~ infusions received and ~~frequency~~ development of antibodies [96, 97, 98, 99, 100, 919, 929, 939]

2. Correlation between history of jaundice and presence of anti-Kell as well as other antibodies.

Please Type and xerox green card at end. (1)

GRO-C

14 October 1972

Title: A study of the occurrence of various inherited and acquired antigens and antibodies in the blood of patients with ~~Autoimmune~~ haemophilia who have been seen at the Oxford Haemophilia Centre.

Material and methods:

The following antigens and antibodies known to occur in the sera of transfused humans will be studied, or, have already been studied.

1) RBC antigens ABO (1) ? anti-RBC antibodies
" " Rh (1)
2) Gm phenotypes (2) anti-Gm (2)
~~anti-Gm~~
3) HLA-antigens (3) anti-HLA (3)
4) Ag (leprotein) antigen (4) anti-Ag (4)
5) a) Ag (~~leucocyte~~ specificity a, x, y, f) a) anti-Ag (5) (~~specificities a, x, y, f~~)
b) b) specificities a, x, y, f, [I] (6) b) specificities a, x, y, f, [I] (6)

4) a) Recently discovered ~~as~~ serum properties (7)
a) Fx anti-Fx
b) Hu anti-Hu
c) Is anti-Is
d) ~~allergen~~ Te anti-~~allergen~~ anti-Te
e) Vm anti-Vm
f) There all others also antibodies.

5) b) Presence of anti-factor ~~XIII~~ VIII / factor IX (8)

Possible additional studies

1. anti-RBC antibodies
2. additional RBC types.
3. Serum protein polymorphisms.
4. Red blood cell polymorphisms. ~~vds~~

Notes: (1) Available from patient charts
(2) These have been done on about 100 patients by D. P. Tzeroff of O.H.C.
(3) To be done on some or all patients at ~~the~~ of Sen, Oxford.
(4) To be done by P. Tzeroff, O.H.C. or A. Vierucci, Florence.
(5) This has been done by D. Kurtz, R.I.
(6) Specimens to be sent by S. Hoffen, ICR.
(7) To be done by BSB and Harrison Hart, ICR.
(8) Already available O.H.C. (#124a)

There are 124 items coded on the O.H.C. punch cards for each patient. Most of these will be useful for comparison with the treatment factors. 3 items of possibly special importance will be the following. These could be eventually used for comparison
1) Name
2) Age 1-15 — Coll No. — NOC No.
3) Sheaty 19-3a
4) Family Hx bleeding 4a
5) Blood group ABO 27, → 29
Rh 30, 21a
6) Treatment (whole blood; plasma; cryo; AHG, human; other AHG. etc.
7) Inhibitor detected 124a
8) Hx of jaundice.
9) complications

others.

Items on coding sheet
(for Beckman machine charge retrieval)

1. ICR No.
2. Lab of Genetics No.
3. V.O.H No.
4. N.D.C. No.
5. Name
6. Date of birth.
7. Molecularity.
8. ABO
9. Rh
10. anti WBC antibodies.
11. Gm phenotype
12. anti-Gm phenotype (0 = 1 present not present)
13. HLA antigens
14. HLA antisera & other reactions were tested.
15. Ag antigen anti-HLA. present or absent
16. specificity of anti-HLA.
17. panel WBC used to test presence of ~~HLA~~ specificity on HLA
18. Ag antigen
19. antisera used to test for Ag.
20. anti-Ag ; present or ~~absent~~ absence.
21. anti Ag specificity
22. panel also used to test anti-Ag.
23. Ag present or observed
24. ~~anti Ag~~ Specificity of Ag
25. anti Ag ; present or observed.
26. specificity of anti-Ag.
27. anti sera used to test for anti-Ag
28. Reaction & Fx Antisera used
29. " " anti Fx sera used
30. etc.

Items on cover sheet (continued)

31. Items from chain check (see above).

~~Objects~~

Objectives: ① To test several hypotheses related to relation of HLA type and the immune reaction in individuals subjected to antigenic stimulation ② and to test hypotheses related to relation of auto-Ag, and Ag to auto-Gm and Gm.

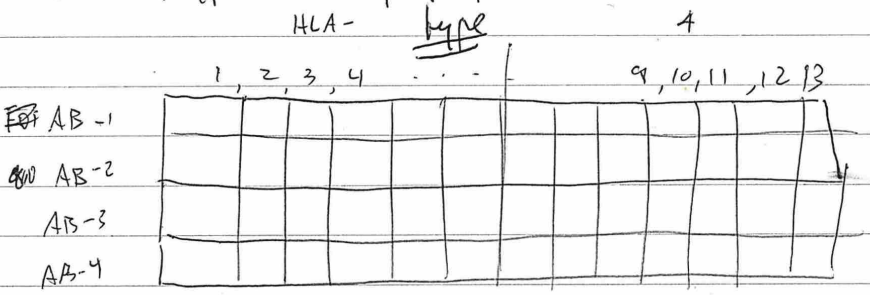
③ and to make observations on the relation of the various factors to each other including the clinical factors.

④ To determine if there is a relation between the formation of auto-for AHG antibodies and any of the measured factors.

Specific hypotheses to be tested.

a) The formation of antibodies ~~the~~ is related to HLA type. (Null hy. there is no difference between each of the in the distribution of HLA types between individuals who do and who do not form antibodies to particular antigen.

Notes: A matrix of this kind will be form for the formation of each kind of antibody of particular specificity. An $n_1 \times n_2$ matrix will be tested for homogeneity



Each species of antibody will be tested in order (i.e. first against Ag, then for, etc). The observations for the first species of antibody will then be used for as a hypotheses to be tested in next series of antibodies.

b) Hypothesis [generated by previous studies] 3 previous studies (see Blumberg and Nature)
There is an association between the presence of anti-Ace and anti-Gm.
(null hypothesis: they are random with respect to each other)

c) [Generated by previous studies] Antibodies to Ace form more commonly in patients who are heterozygotes for Gm.

d) There is no correlation between presence of anti-Ace and anti Ag.
(previous study)

e) There is no correlation between anti Gm and anti Ag (previous study)
(i.e. they are random with respect to each other)

f) Relation of anti-. There is a relation between anti-Ace specificities and anti-Gm specificities. (null hyp: they are random with relation to each other. Mature will develop if this is

anti-Gm	anti-Ace: ay	ax	ad	ayf	adf
1					
1,2					
1,35					
...					
"					

X^2 with n degrees of freedom.

X^2

g) similar for anti-HLA, anti-Ace
h) " " anti " " Ag
i) " " " " Gm
j) " " " anti-RBC (if these are done)
k) There is an association of anti AHG (Factor VIII) and Gm homozygosity. This observation was made on Polish hemophiliac patients.

g) There is a correlation between anti-AHG and each of the factors measured.

h) There is a correlation between initial AHG level and each of the factors measured.

- ~~other hypothesis~~

i) other clinical correlates (i.e. family hx, robs & diseases.

1. Correlation between ~~natural~~ neutralizing of ~~infusions~~ INFUSIONS received and ~~frequency~~ development of antibodies [96, 97, 98, 99, 100, 919, 920, 930]

2. Correlation between history of jaundice and presence of anti-AHG as well as other antibodies.

YEAR OF BIRTH		RESIDENCE	EDUCATION	MED. HIST.	DENT. EXT.	TREATMT.	MOB. AIDS	YEAR	HOSP. ADM.	REASON ADMITTED		TREATMNT.
Tens 1234	Units 1234	2 Rod Code	Normal School	Bruising	1 Tooth	Wh. Blood Frequent	Wheel Chair	1963-67	N.O.C.	Haemarth-roses	Dental Extracts.	EACA
1	11	21	31	41	51	61	71	81	91	101	111	121
1567	1567		P.H. School	Epistaxis Frequent	2-3 Teeth	Wh. Blood Infrequent	Calipers	1968	Churchill (Day Case)	Haemat-omata	SURGERY Ortho-paedic	P.O.P. back slab
2	12	22	32	42	52	62	72	82	92	102	112	122
2589	2589		L.M.T. College	Epistaxis Infrequent	>3 Teeth	Plasma Frequent	Crutches	1969	Churchill (Other)	Haematuria	Neuro-surgery	Total Immobilis.
3	13	23	33	43	53	63	73	83	93	103	113	123
3680	3680		Home Tuition	GI Bleeding Frequent	Ex. Bleeding	Plasma Infrequent	Invalid Car	1970	Radcliffe	G.I. Bleeds	ENT	Comp. Bed Rest
4	14	24	34	44	54	64	74	84	94	104	114	124
4790	4790		No Formal Tuition	GI Bleeding Infrequent	Trans-fusions	Cryo. Frequent	Mod. Controls Car	1971	Others	Ilio-psoas haemat-omata	G.I.	Traction
5	15	25	35	45	55	65	75	85	95	105	115	125
FIRST SEEN AT OXFORD			EXAMS						INFUSIONS			
Tens 1234	Units 1234		C.S.E.	Haematuria Frequent	Severe Accident	Cryo. Infrequent	Others	1972	Whole Blood	ENT bleeds	Ophthal-mic	Physio-therapy
6	16	26	36	46	56	66	76	86	96	106	116	126
1567	1567	BL. GROUP A	O Level	Haematuria Infrequent	Minor Accident	Human AHG Conc.	Peanuts	Res. Def. Haemarth	Plasma	Neuro-Surgical	Chest	Aspiration
7	17	27	37	47	57	67	77	87	97	107	117	127
2589	2589	B	A Level	Haemar-throses Frequent	Minor Ops.	Porcine AHG Conc.	Egg-White Tablets	Res. Def. Haematom.	Cryo.	Accidents	Kidneys	Antibotics
8	18	28	38	48	58	68	78	88	98	108	118	128
3680	3680	O	Spec. Trg. Course	Haemar-throses Infrequent	Major Ops.	Bovine AHG Conc.	Others	Res. Def. Haemorr.	Human AHG Conc.	Surgical Assess.	Other	Splints
9	19	29	39	49	59	69	79	89	99	109	119	129
4790	4790	Rh +	Univ. Degree	Mus/Haem Frequent	Res. Dis. Knee	Christmas Factor Conc.	Malaria	Misc.	Bovine AHG Conc.	Diagnosis	Menorr-hagia	Calipers
10	20	30	40	50	60	70	80	90	100	110	120	130
SEVERITY	INIT. REF.	Rh —	ABSENCE <¼	Mus/Haem Infrequent	Res. Dis. Ankle	Regular Prophyl. Therapy		Gen. Ass./ Rehab.	Porcine AHG Conc.	ABSENCE <1 Month	Peanuts	Crutches
Severe	Diagnosis	21a	31a	41a	51a	61a	71a	81a	91a	101a	111a	121a
Moderate	Dental	Employed	¼—½	Ilio-psoas Haema-toma	Res. Dis. Elbow	No Intravenous Therapy			Christmas Factor Conc.	1-3 Months	Egg-White Tablets	Psychiatric
2a	12a	22a	32a	42a	52a	62a	72a	82a	92a	102a	112a	122a
Mild	Surgery	Un-Employed	>½	Menorr-hagia	Res. Dis. Shoulder	History of Jaundice	Reactions		Other	3-6 Months	Others	Rec. Pro-phylactic Infusion
3a	13a	23a	33a	43a	53a	63a	73a	83a	93a	103a	113a	123a
Family History of Bleeding	Gen. Ass.	R.D.P.	Tonsillec-tomy	Cerebral Haem.	Res. Dis. Mus./Haem.	R.H.C.	Dead	Post-Dent. Ext.	Post-Op.	>6 Months	Jaundice after Infusions	Inhibitor Detected
4a	14a	24a	34a	44a	54a	64a	74a	84a	94a	104a	114a	124a

FINDEX REGD

C W CAVE & CO LTD LONDON 7/69

CHURCHILL HOSPITAL
OXFORD HAEMOPHILIA CENTRE

NAME OF PATIENT: U.O.H. No.

ADDRESS. OCCUPATION N.O.C. No.

TELEPHONE No. G.P.s NAME

DATE OF BIRTH. NATIONALITY. ADDRESS

BLOOD GROUP. ANTIBODIES. TELEPHONE No.

DIAGNOSIS ASSAY RES. DATE FIRST SEEN IN OXFORD

FAMILY HIST. OF BLEEDING ORIGINALLY REFERRED BY

FAMILY DATE COM. PROPH. INFS.

HISTORY OF JAUNDICE DATE INHIBITOR DETECTED

No. ADMISSIONS: N.O.C.: CHURCHILL (DAY CASE): OTHERS:

COMPLICATIONS. INHIBITOR ALLERGIES ADDICTIONS REACTIONS

NAME OF PATIENT: U.O.H. No.

ADDRESS. OCCUPATION N.O.C. No.

TELEPHONE No. G.P.s NAME

DATE OF BIRTH. NATIONALITY. ADDRESS

BLOOD GROUP. ANTIBODIES. TELEPHONE No.

DIAGNOSIS ASSAY RES. DATE FIRST SEEN IN OXFORD

FAMILY HIST. OF BLEEDING ORIGINALLY REFERRED BY

FAMILY DATE COM. PROPH. INFS.

HISTORY OF JAUNDICE DATE INHIBITOR DETECTED

COMPLICATIONS. INHIBITOR ALLERGIES ADDICTIONS REACTIONS

No. ADMISSIONS: N.O.C.: CHURCHILL (DAY CASE): OTHERS:

YEAR OF BIRTH Tens 1234	YEAR OF BIRTH Units 1234	RESIDENCE 2 Rod Code	EDUCATION	MED. HIST.	DENT. EXT.	TREATMT.	MOB. AIDS	YEAR	HOSP. ADM.	REASON ADMITTED		TREATMNT.
			Normal School	Bruising	1 Tooth	Wh. Blood Frequent	Wheel Chair	1963-67	N.O.C.	Haemarth-roses	Dental Extracts.	EACA
1	11	21	31	41	51	61	71	81	91	101	111	121
1567	1567		P.H. School	Epistaxis Frequent	2-3 Teeth	Wh. Blood Infrequent	Calipers	1968	Churchill (Day Case)	Haemat-omata	SURGERY Ortho-paedic	P.O.P. back slab
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3	13	23	33	43	53	63	73	83	93	103	113	123
3680	3680		Home Tuition	GI Bleeding Frequent	Ex. Bleeding	Plasma Infrequent	Invalid Car	1970	Radcliffe	G.I. Bleeds	ENT	Comp. Bed Rest
4	14	24	34	44	54	64	74	84	94	104	114	124
4790	4790		No Formal Tuition	GI Bleeding Infrequent	Trans-fusions	Cryo. Frequent	Mod. Controls Car	1971	Others	Ilio-psoas haemat-omata	G.I.	Traction
5	15	25	35	45	55	65	75	85	95	105	115	125
FIRST SEEN AT OXFORD Tens 1234	FIRST SEEN AT OXFORD Units 1234		EXAMS						INFUSIONS			
			C.S.E.	Haematuria Frequent	Severe Accident	Cryo. Infrequent	Others	1972	Whole Blood	ENT bleeds	Ophthal-mic	Physio-therapy
6	16	26	36	46	56	66	76	86	96	106	116	126
1567	1567	BL. GROUP A	O Level	Haematuria Infrequent	Minor Accident	Human AHG Conc.	Peanuts	Res. Def. Haemarth	Plasma	Neuro-Surgical	Chest	Aspiration
7	17	27	37	47	57	67	77	87	97	107	117	127
2589	2589	B	A Level	Haemar-throses Frequent	Minor Ops.	Porcine AHG Conc.	Egg-White Tablets	Res. Def. Haematom.	Cryo.	Accidents	Kidneys	Antibotics
8	18	28	38	48	58	68	78	88	98	108	118	128
3680	3680	O	Spec. Trg. Course	Haemar-throses Infrequent	Major Ops.	Bovine AHG Conc.	Others	Res. Def. Haemorr.	Human AHG Conc.	Surgical Assess.	Other	Splints
9	19	29	39	49	59	69	79	89	99	109	119	129
4790	4790	Rh +	Univ. Degree	Mus/Haem Frequent	Res. Dis. Knee	Christmas Factor Conc.	Malaria	Misc.	Bovine AHG Conc.	Diagnosis	Menorr-hagia	Calipers
10	20	30	40	50	60	70	80	90	100	110	120	130
SEVERITY Severe	INIT. REF. Diagnosis	Rh —	ABSENCE <¼	Mus/Haem Infrequent	Res. Dis. Ankle	Regular Prophyl. Therapy		Gen. Ass./ Rehab.	Porcine AHG Conc.	ABSENCE <1 Month	Peanuts	Crutches
1a	11a	21a	31a	41a	51a	61a	71a	81a	91a	101a	111a	121a
Moderate	Dental	Employed	¼—½	Ilio-psoas Haema-toma	Res. Dis. Elbow	No Intravenous Therapy			Christmas Factor Conc.	1-3 Months	Egg-White Tablets	Psychiatric
2a	12a	22a	32a	42a	52a	62a	72a	82a	92a	102a	112a	122a
Mild	Surgery	Un-Employed	>½	Menorr-hagia	Res. Dis. Shoulder	History of Jaundice	Reactions		Other	3-6 Months	Others	Rec. Pro-phylactic Infusion
3a	13a	23a	33a	43a	53a	63a	73a	83a	93a	103a	113a	123a
Family History of Bleeding	Gen. Ass.	R.D.P.	Tonsillec-tomy	Cerebral Haem.	Res. Dis. Mus./Haem.	R.H.C.	Dead	Post-Dent. Ext.	Post-Op.	>6 Months	Jaundice after Infusions	Inhibitor Detected
4a	14a	24a	34a	44a	54a	64a	74a	84a	94a	104a	114a	124a

FINDEX REGD

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OXFORD HAEMOPHILIA CENTRE

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