ACUTE LEUKEMIA

French - American - British Classification

Lymphoblastic Leukemias

Cytological features	L_1	L_2	L_3
Cell Size	Small cells predominate	Large, heterogeneous in size	Large and homogeneous
Nuclear chromatin	Homogeneous in any one case	Variable - heterogeneous in any one case	Finely stippled and homogeneous
Nuclear shape	Regular, occasional clefting or indentation	Irregular; clefting and indentation common	Regular - oval to round
Nucleoli	Not visible, or small and inconspicuous	One or more present, often large	Prominent; one or more vesicular
Amount of cytoplasm	Scanty	Variable; often moderately abundant	Moderately abundant
Basophilia of cytoplasm	Slight or moderate, rarely intense	Variable; deep in some	Very deep
Cytoplasmic vacuolation	Variable	Variable	Often prominent

L_1 = acute leukemia of childhood

L_2 = acute undifferentiated leukemia

L_3 = Burkitt's type

Classification of Acute Lymphocytic Leukemia by Membrane Phenotype

M_1 = Myeloblastic Leukemia without maturation

M_2 = Myeloblastic Leukemia with maturation

M_3 = Promyelocytic Leukemia

M_4 = Myelomonocytic Leukemia

M_5 = Monocytic Leukemia

M_6 = Erythroleukemia

Cytologic Reactions in Acute Leukemia

Reaction	Type*	M_1	M_2,M_3	M_4	M_5	$L_{1,2,3}$
Peroxidase or Sudan black B		+†	+++	++	+/−	−‡
NASDA§		+	++	+++	+++	+/−
NASDA-fluoride		+	++	++/+	+/−	+/−
Periodic acid Schiff		+/−	+	++/+	++/+	+++/−
Lysozyme		−	+	++	+++	−

* Classification used in Reference 10.

† One plus greater than 3% cells positive; two plus greater than 25% cells positive; three plus greater than 50% cells positive.

‡ No reactivity.

§ Naphthol ASD chloroacetate (NASDA) as substrate for determination of esterase activity.

References

1. Gralnick, H.E., et al. Classification of Acute Leukemia. Ann Int Med 87:740, 1977.

2. Bennett, J.M., et al. Proposals for the Classification of the Acute Leukemias. Brit J Haematol 33:451, 1976.

Reading List

General References

1. Williams, W.J., et al. Hematology. 2nd edition. N.Y., McGraw-Hill, Inc., 1977.

2. Wintrobe, M.M. Clinical Hematology. 7th edition. Philadelphia, Lea & Febiger, 1974.

3. Linman, James. Hematology. N.Y., MacMillan Co., 1975.

4. Cline, Martin. The White Cell. Harvard University Press, Cambridge, 1975.

Area Reviews

1. Gunz, Frederick and Baikie. Leukemia. 3rd edition. N.Y., Grune & Stratton, 1974.

2. Clinics in Haematology, vol. 7, no. 2. Acute Leukemia. June, 1978.

3. Seminars in Hematology. Symposia on Leukemia/Lymphomas. vol. 15, no. 3, July, 1978 and vol. 15, no. 4, Oct., 1978.

Disease, 1976.

6. Bodey, G.P., Rodriguez, V., Chang, H.Y., and Narboni, G. Fever and Infection in Leukemic Patients. Cancer 41:1274, 1978.

7. Jones, M.E. and Saleem, A. Acute Promyelocytic Leukemia. Amer J Med 65:673, 1978.

8. Bearman, R.M., et al. Prolymphocytic Leukemia. Cancer 42:2360, 1978.

9. Freireich, E.J. Therapy of AML. Cancer 42:2111, 1978.

10. Thomas, E.D.C. Marrow Transplantation for Acute Leukemia. Cancer 42:895, 1978.

11. Frei, Emil. ALL Treatment. Cancer 42:828, 1978.

12. D'Angio, G.D. Complications of Therapy in Lymphoma - Leukemia Long Term Survivors. Cancer 42:1015, 1978.

13. Levine, Arthur. Supportive Therapy. Cancer 42:883, 1978.

14. Medical Research Council. Chemotherapy of Acute Myeloid Leukemia in Adults. Br J Cancer 39:69, 1979.

Treatment Regimens

I. SWOG Protocols

7823 ROAP--AdOAP in Acute Leukemia, Phase III

Rubidazone	200 mg/M^2 IV day 1
Oncovin	2 mg IV day 1
Cytosine Arabinoside	70 mg/M^2 CI days 1-7
Prednisone	100 mg p.o. q.d. days 1-5

Bone marrow day 7 or 8, if < 5% leukemic cells and 30% cellularity --no therapy day 10 if significant leukemic infiltration, etc. Five more days of Ara-C beginning day 10.

AdOAP

Adriamycin	40 mg/M^2 IV day 1
Oncovin	2 mg IV day 1
Cytosine Arabinoside	70 mg/M2 CI days 1-7
Prednisone	100 mg p.o. q.d. days 1-5

Same program as above day 7 or 8.

7723 DIGLYCOALDEHYDE in Adult Leukemia, Phase II study

1.5 gm/M^2 daily x 5 as a six hour IV infusion

7720 SUPPORTIVE MANAGEMENT with or without Immunotherapy (Levamisole) in Acute Oligoblastic (Smoldering Leukemia)

Levamisole 100 mg/M^2 (to nearest 50 mg) daily for three consecutive days every other week.

II. Acute Lymphocytic Leukemia

VCR - PRED

Prednisone	Vincristine	
40 mg/M^2/day +	1.5 mg/M^2/wk	(1)
40 mg/M^2/day +	2.0 mg/M^2/wk	(2)

1. George, P., Hernandez, K., et al. A Study of "Total Therapy of Acute Lymphocytic Leukemia in Children. J Ped 72:399, 1968.

2. Selawry, O.S. New Treatment Schedule with Improved Survival in Childhood Leukemia: Intermittent Parenteral vs Daily Oral Administration of Methotrexate for Maintenance of Induced Remission. J Am Med Assn 194:75, 1965.

VAMP

Vincristine	2 mg/M^2/day #1 IV
Amethopterin (MTX)	20 mg/M^2/day #1 and #4 IV
6-Mercaptopurine	60 mg/M^2/day x p.o.
Prednisone	40 mg/M^2/day x 8 p.o.

3. Freireich, E.J., Karon, M. and Frei, E., III. Quadruple Combination Therapy (VAMP) for Acute Lymphocytic Leukemia of Childhood. Proc Am Assn Cancer Res 5:20, 1964.

POMP

Prednisolone	1000 mg/M^2/day x 5	or Prednisone 50 mg p.o. BID days 1-5
Oncovin (VCR)	2 mg/M^2/day 1 only	
Methotrexate	7.5 mg/M^2/day x 5	
6-Mercaptopurine	500 mg/M^2/day x 5	

4. Henderson, E.S. and Serpick, A. The Effect of Combination Drug Therapy and Prophylatic Oral Antibiotic Treatment in Adult Acute Leukemia. Clin Res 15:336, 1967.

5. Henderson, E.S. and Samaha, R.J. Evidence that Drugs in Multiple Combinations have Materially Advanced the Treatment of Human Malignancies Cancer Res 29:2272, 1969.

L_2 PROTOCOL

Induction

Prednisone	60 mg/M^2 p.o. q.d. x 4 weeks
VCR	15-40 mg/M^2 IV q week x 4
Daunorubicin	60 mg/M^2 IV x 2 consecutive days

1 week rest

Consolidation

Cytosine arabinoside	150 mg/M^2 IV q.d. x 5
6-TG	75 mg/M^2 p.o. q.d. x 5

4 courses with 2 days rest between

L-ASP	60,000 IU IV q.o.d. x 12 doses
BCNU	60 mg/M^2

2 weeks rest

Maintenance

6-TG	300 mg/M^2 p.o. q.d. x 4
Cytoxan	600 mg/M^2 IV on day 5
Hydrea	2400 mg/M^2 p.o. q.d. x 4
Daunorubicin	45 mg/M^2 IV on day 5
MTX	10 mg/M^2 p.o. q.d. x 4
BCNU	60 mg/M^2 IV on day 5
Ara-C	150 mg/M^2 IV q.d. x 4
VCR	2 mg/M^2 IV on day 5

1 week rest between each 5-day course, new rotation starts with 6-TG

CNS Prophylaxis

I.T. MTX	6.25 mg/M^2 day 4 of induction, 2 doses before and 1 at the end of consolidation, 2 doses at the end of each rotation on maintenance, every 2 months

6. Haghbin, M. Chemotherapy of Acute Lymphoblastic Leukemia in Children. Am J Hemat 1:201, 1976.

VCR-PRED-DAUN

A.

VCR	1.5-2.0 mg/M^2/wk
Daunorubicin	60 mg/M^2/wk
Pred.	150-1000 mg/M^2 day 1-5

7. Jacquillat, C. Treatment of Acute Lymphoblastic Leukemia. Haematologica 10:57, 1976.

8. ASCO Abstracts. 1979:C173.

B. Induction

Daunorubicin	80 mg/M^2 IV days 1, 15, 29
VCR	1.5 mg/M^2 IV days 1, 8, 15, 22, 29
Prednisone	40 mg/M^2 p.o. q.d. x 4 weeks. TAPER 2 weeks

Maintenance

MTX	30 mg/M^2 p.o. q. wk
6-MP	70 mg/M^2 p.o. q.d.

Reinduction at 6 and 12 months

Daunorubicin	60 mg/M^2 IV days 1 and 15
VCR	1.5 mg/M^2 IV days 1, 8, and 15
Prednisone	40 mg/M^2 p.o. q.d. x 21

9. Einhorn, L.H., et al. Oncology, 34:25, 1977.

VCR-PRED-L-ASP

VCR	2 mg/M^2 IV day 1, 8, 15, 22
Prednisone	40 mg/M^2 p.o. q.d. x 28, TAPER x 1 week
L-ASP	500 IU/kg IV q.d. x 10 (AFTER ABOVE)

10. Henderson, E.H., et al. Combination Therapy of Adult Patients with A.L.L. Proc Am Assn Clin Res 15:102, 1974.

ST. JUDE PROTOCOLS

Prednisone	40 mg/M^2 p.o.	
Vincristine	1.5 mg/M^2 IV q. wk.	
+Daunomycin	25 mg/M^2 IV q.d. x 3.	Rest 4 days, repeat;
+L-ASP	Study VII	then weekly injections. Study VI

CNS

5-1200 rads craniospinal	I-III
none in IV	
2400 cranial + I.T. MTX	V, VII, VIII
2400 craniospinal	VI, VII

Maintenance

6-MP daily	50 mg/M^2 p.o.
MTX weekly	20 mg/M^2 IV
Cytoxan weekly	200 mg/M^2 IV

+ VCR weekly III, IV	1.5 mg/M^2 IV q. wk. x 3
+ VCR - PRED PULSES V, VI, VIII	40 mg/M^2 p.o. q.d. x 15

D/C after 2-3 years. C.R.

11. Mauer, A.M. and Simone, J.V. Current Status of Childhood A.L.L. Cancer Treat Rev 3:17-41, 1976.

12. Aur, R.J.A., et al. Childhood ALL:Study VIII. Cancer 42:2123, 1978.

ADRIA-VCR-PRED-UM

Adria	80 mg/M^2 IV days 1, 15, 29
VCR	2 mg/M^2 IV days 1, 8, 15, 22, 29
Prednisone	40 mg/M^2 p.o. q.d. days 1-28

Personal Communication - Dabich

LAPOCA

VCR	1.5 mg/M^2 IV days 1, 8, 15
Pred	40 mg/M^2/day for 14 days, taper x 7 days
Ara-C	100 mg/M^2 CI days 1-5
L-Asp	6000 iu/M^2 IM days 3, 5, 7, 10, 12, and 14

MOAD - ADULT ALL

Methotrexate	200 mg/M^2 IV day 1
Oncovin	2 mg IV day 2
L-Asparaginase	500 iu/kg IV on day 2
Dexamethasone	6 mg/M^2 p.o. days 1-10

q 10 days

13. ASCO Abstract C242

Recurrent Lymphocytic Leukemia

Reinduction (4 wks)

VCR	1.5 mg/M^2 IV q week x 4
Prednisone	40 mg/M^2 p.o. q.d.
Adria	40 mg/M^2 IV days 1 and 15

Intensive Rx - ALL PTS. NOT IN REMISSION

L-Asp	10,000 iu/M^2 IV wkly x 2
Ara-C	300 mg/M^2 IV wkly x 2

Continuation (30-36 months)

MTX	40 mg/M^2 p.o. q week
6-MP	50 mg/M^2 p.o. q.d.

14. Rivera, G., et al. Recurrent Childhood Lymphocytic Leukemia Following Cessation of Therapy. Cancer 37:1679, 1976.

OPAL - Adult ALL

Vincristine	1.4 mg/M^2 (max 2 mg)
Prednisolone	40 mg/day orally days 1-28
Adriamycin	30 mg/M^2 IV day 1
L-Asp	10,000 iu/M^2 IV days 1-14

15. Woodruff, R.K., et al. Am J Hematology 4:173, 1978.

NCI Protocol

L-Asp	15,000 iu/M^2 IV days 1-5, 8-12, 15-19, 22-26
VCR	2 mg/M^2 IV days 8, 15, 22
Daunomycin	30 mg/M^2 IV days 8, 15, 22
Prednisone	40 mg/M^2 p.o. days 8-12, 15-19, 22-26

16. ASCO Abstracts, 1978, C-46

VM-26 and CYTOSINE ARABINOSIDE - Childhood ALL

VM-26	165 mg/M^2 dose IV	2 x/wk for four weeks
C A	300 mg/M^2 dose IV	2 x/wk for four weeks

17. ASCO Abstracts, 1979, C-327

MTX-L-ASP-VCR MAINTENANCE in Adv. Childhood ALL

18. ASCO Abstracts, 1979, C-610

Differences in Response of Adults and Children with A.L.L.

19. Gee, T.S., et al. A.L.L. in Adults and Children - Differences in Response with Similar Therapeutic Regimens. Cancer 37:1256, 1976.

III. The Blast Non-Lymphocytic Leukemias

ARA-TG

Cytosine Arabinoside	2-3 mg/kilo
Thioguanine	2.5 mg/kilo orally

20. Gee, T.S., Yu, K-P, and Clarkson, B.D. Treatment of Adult Acute Leukemia with Arabinosylcytosine and Thioguanine. Cancer 23:1019, 1969.

COAP

Cytoxan	1 mg/kg q 8 h by IV push or piggy back for 15 doses
Oncovin	2 mg IV/day 1
Cytosine Arabinoside	1 mg/kg q 8 h by continuous infusion for 15 doses
Prednisone	25 mg qid p.o. for 20 doses

21. Freireich, E.J., Bodey, G.P., Hart, J.S., Whitecar, J.P., Jr., and McCredie, K.B. Current Status of Therapy for Acute Leukemia. Recent Results in Cancer Research 36:119, 1971.

22. Freireich, E.J., Bodey, G.P., Hart, J.S., Rodriguez, V., Whitecar, J.P. and Frei, E., III. Remission Induction in Adults with Acute Myelogenous Leukemia. Recent Results in Cancer Research 30:85, 1970.

5 DRUG - UM

Adriamycin	30 mg/M^2 IV days 1-3
Ara-C	100 mg/M^2/day IV CI x 7 days
6-T6	50 mg/M^2 q 12 h x 7 days (14 doses)
Oncovin	2 mg/M^2 IV day 1
Prednisone	40 mg/M^2/day p.o. x 7 days

Dabich - personal communication

CYTOSINE ARABINOSIDE - DAUNOMYCIN

Cytosine Arabinoside	100 mg/M^2/day by CI for 5 or 7 days
Daunomycin	45 mg/M^2/day by rapid injection on days 1 and 2 or days 1, 2, and 3

23. Yate, J.R., Holland, J.F., Wallace, H.J., Jr., Henderson, E.J., and Ellison, R.R. Intensive Induction Treatment of Acute Myelocytic Leukemia. Proc Am Assn Cancer Research 15:178, 1974.

CYTOSINE ARABINOSIDE - ADRIAMYCIN

A.

Cytosine Arabinoside	100 mg/M^2/day by CI for 7 days
Adriamycin	30 mg/M^2 IV on days 1, 2, and 3

24. Preisler, H.D., Bjornsson, S., and Henderson, E.S. Chemotherapy for Acute Myelocytic Leukemia with Cytosine Arabinoside and Adriamycin. Abstracts. Am Soc Hemat, 19th ann mtg, p. 76, 1976.

25. Preisler, H.D., Bjornsson, S., and Henderson, E.S. Adriamycin Cytosine Arabinoside Therapy for Adult Acute Myelocytic Leukemia. Cancer Treatment Reports 61:89, 1977.

B. Adria (3) and Ara-C (10)

Adria	30 mg/M^2 IV days 1-3
Cytosine Arabinoside	100 mg/M^2/day x 10 CI

26. ASCO Abstracts, 1979, C-20

L6 PROTOCOL

Induction and Consolidation

Cytosine Arabinoside	3.0 mg/kg q 12 h IV
Thioguanine	2.5 mg/kg q 12 h p.o.

Maintenance

Vincristine	0.03-0.04 mg/kg IV
Methotrexate	10 mg x 4 p.o.
BCNU	1.0-20 mg/kg IV
Thioguanine	10 mg/kg x 4 p.o.
Cytoxan	10-20 mg/kg IV
Hydroxyurea	60-80 mg/kg x 4 p.o.
Daunomycin	1.0 mg/kg IV

27. Clarkson, B.D., Dowling, M.D., Gee, T.S., Cunningham, I.B. and Burchenal, J.H. Treatment of Acute Leukemia in Adults. Cancer 36:775-795, 1975.

CIAL

Chemoimmunotherapy of Adult Acute Leukemia

Adriamycin	40 mg/M^2 IV, day 1
Vincristine	2 mg IV, day 1
Prednisone	100 mg/day p.o., days 1-5
Cytosine Arabinoside	100 mg/M^2/day IV, days 5-9
BCG	days 12 and 17

28. McCredie, K.B., Bodey, G.P., Burgess, M.A., Cutterman, J.V., Hester, J.P., Rodriguez, V., and Freireich, E.J. The Management of Acute Leukemia in Adults in Cancer Chemotherapy. Fundamental Concepts and Recent Advances. Yearbook Med. Publ., Chicago, 1975, pp 173-186.

Treatment of Blastic Leukemias

29. McCredie, K.B. Current Concepts in Acute Leukemia. Postgrad. Med. 61:221, 1977.

Unmaintained Remission

Daunorubicin	1.0 mg/kg, days 1, 2, 3
Cytosine Arabinoside	45 mg/kg over 72 hrs. Days 1, 2, 3 and again on 8, 9, and 10

30. Vaughan, W.P., Karp, J.E., Braine, H.G. and Burke, P.J. Prolonged Unmaintained Remissions Following Timed Sequential Chemotherapy of Acute Myelocytic Leukemia. Abstracts. Am Soc Hemat, 19th ann. mtg. p. 76, 1976.

CAM

Cytoxan	1.5 gms/M^2	
Ara-C	300 mg/M^2	IV qyd till hypoplasia or 21 days
MTX	80 mg/M^2	

31. Skeel, R.T., et al. CAM vs AT for ANLL in Adults. Proc Am Assn Can Res 17:301, 1976.

VLB-PRO-ARA-C

Vinblastine	5.0 mg/M^2/IV days 1, 8, and 15
Procarbazine	100 mg/M^2/o p.d. x 14
Ara-C	100 mg/M^2 (33 1/3 mg q 8 h IV push x 15 doses / M^2)

Repeat on day 28 if PR

Maintenance

Monthly courses of VLB, PRO and ARA-C alternating with VLB-PRO alone.

32. Ramsay, N.K.C., et al. Vinblastine, Procarbazine and Cytosine Arabinoside in Combination for Re-induction of Childhood Acute Myelocytic Leukemia. Cancer Treat Reports 60:1683, 1976.

TAD

6-Thioguanine	100 mg/M^2 (o) q 12 d x 7 days
Ara-C	100 mg/M^2 IV/30 mins. x 7 days
Daunorubicin	60 mg/M^2 IV days 5, 6, 7

Repeat q 14-21 d x 1-2 more courses if not in remission.

33. Gale, R.P., et al. High Remission-Induction Rate in Acute Myeloid Leukemia. Lancet I:497, 1977.

TRAP

Thioguanine	120 mg (o) q.d. x 5
Rubidomycin	40 mg IV on day 1
Cytosine Arabinoside	150 mg IV q.d. x 5
Prednisolone	50 mg (o) q.d. x 5

Off 9 days, repeat x 5

34. Paolino, W., et al. Hammersmith Protocol. Brit Med J 3:567, 1973.

DOAP

Daunomycin	60 mg/M^2, day 1
Vincristine	2 mg day 1
Ara-C	100 mg/M^2/d x 5 days
Prednisone	25 mg q 6 h x 5 days

35. Bodey, G.P., et al. Regimens Containing Cytarabine Studied by the Southwest Oncology Group. Arch Int Med 136:1383, 1977.

L14

Dauno	60 mg/M^2 IV daily x 3
Ara-A	Loading dose 25 mg/M^2 then 200 mg/M^2 daily CI x 5
6-Thioguanine	100 mg/M^2 p.o. q 12 x 10

36. ASCO Abstracts, 1979, C-452

Intensive Sequential Combination Chemotherapy → Unmaintained Remission Boston

37. Ibid C-148

5-AZACYTIDINE

5-Azacytidine	200 mg/M^2/day by IV push/5-10 mins. in 3 divided doses for 5 consecutive days

38. Levi, J.A., et al. 5-Azacytidine and Guanazole Therapy in Previously Treated Adult ANLL. Cancer 38:36, 1977.

DAUNOMYCIN-PREDNISONE FOR ERYTHROLEUKEMIA

Daunomycin	1 mg/kg IV, days 1-5
Prednisone	60 mg p.o., days 1-5

39. Bloomfield, C.D., Brunning, R. and Kennedy, B.J. Daunorubicin Treatment of Erythroleukemia. Proc Am Assn for Cancer Res 15:17, 1974.

LATE INTENSIFICATION

POMP or COAP	3-5 day courses. 59 wks-2 yrs after CR

40. Bodey, G.P. Late Intensification Therapy for Acute Leukemia in Remission J Am Med Assn 235:1021, 1976.

41. ASCO Abstracts for update, C-448

42. Induction at 6th and 12 months in adult ANLL
Ibid C-371

MAINTENANCE

6-Thioguanine	2 mg/kg p.o. x 4
Ara-C	1.5 mg/kg/M on day 5

43. Bloomfield - Lancet ii 158, 1977.

44. ASCO Abstracts, 1979, C-626

45. The Impact of Maintenance Chemotherapy on Survival of ANLL - None
ASCO Abstract, 1979, C-519

Criteria

To be used in assessing data and remissions, complete and partial, and survival.

A. Survival: All patients should be followed until death

B. Criteria for remission

1. Bone marrow (Category M)
ratings for parameters

Parameter	Blast Cells*	Leukemia + Blast Cells*
Parameter Rating		
1	0- 5	0- 5
2	6-25	6-39
3	25	39

Ratings for Category M: Ratings of this category will be determined by the most abnormal parameter found. Bone marrows qualifying the M1 ratings must contain qualitative and quantitative normal erythropoiesis, granulopoiesis, and megakaryopoiesis.

2. Category H (Peripheral Blood)

Ratings for category H are determined by the sum of the ratings for all of the parameters (hemoglobin, neutrophilic segmented granulocytes, blast cells,* and platelets).

Ratings indicating improvement in this category must not be ascribable to transfusion of any blood elements.

a. Hemoglobin and hematocrit

1) Increase 12.0 gm and 36.0 vols%
2) Increase 9.0 gm and 27.0 vols% for one month without transfusion
3) No change

b. Segmented neutrophils

1) Increase 2000/mm^3
2) Increase 1000/mm^3
3) No change

c. Platelets

1) Above 100,000/mm^3
2) Between 50,000/mm^3 and 100,000/mm^3
3) No change

d. Blast cells*

1) 0
2) Less than 50%
3) Greater than 50%

H-rating

Rating		Sum of Parameter Ratings
1	=	4
2	=	4-8
3	=	Greater than 8

3. Category P (Physical Findings)

a. Ratings for each parameter

Each physical finding constitutes a measureable parameter. The degree of abnormality for each parameter will be rated as follows:

Leukemic Organ Involvement: (including liver, spleen, lymph nodes, etc. If present, note and score separately: skin, CNS, kidney, lungs, etc.)

1 = none 2 = definite 3 = marked

*This term includes blast cells as well as all cells which cannot be classified as either blast cells or more mature normal elements, and includes "leukemic cells" and stem cells.

b. Ratings for Category P

The final rating for Category P is based on the sum of the numerical values given to each parameter.

Category P Rating		Sum of Parameter Rating
1	=	1
2	=	2
3	=	3

4. Category S (Symptoms)

Rating for category S is determined by the performance activity of the patient. Ratings listed below:

1 = Asymptomatic and normal activity
2 = Symptomatic with normal or limited activity but less than 50% of normal waking hours in bed
3 = Symptomatic with more than 50% of time in bed

Criteria for rating disease status:

A.	No evident disease:	A rating of one in all categories (M_1 H_1 P_1 S_1)
B.	Moderate disease:	A rating of 2 in one or more categories, but no rating of 3 in any category
C.	Extensive disease:	A rating of 3 in one or two categories
D.	Extreme disease	A rating of 3 in more than two categories

Term for describing the response to therapy:

A.	Complete Remission (CR):	Improvement to disease status A
B.	Good Partial Remission (GR):	Improvement to disease status B
C.	Poor Partial Remission (PR):	Improvement to disease status C
D.	No Remission (NR):	No change in any status
E.	Progressive Disease (PD):	Deterioration from initial disease status, or if initially in status D, documented deterioration in any category

Therapeutic Amenorrhea

R. G. Hiss, M.D. and R. K. Laros, Jr., M.D.

1) Depo Provera 100 mg I.M.

Repeat 100 mg in 1 week
Then 100 mg q. 2 weeks x 4 months
Then 200 mg q. 4 weeks

2) Premarin 1.25 mg p.o. daily

or

Enovid 10 mg p.o. daily for 2 weeks

Then 20 mg p.o. daily for 2 weeks
Then 30 mg p.o. daily for 2 weeks
Then 40 mg p.o. daily

ORAL CARE AND CONSIDERATIONS

Dr. John Gobetti

It is exceedingly important to maintain the highest level of oral hygiene during your illness. The mouth is the natural environment for 40 microorganism (primarily bacteria and a few fungi); 30 are normal oral inhabitants and there are approximately 10 transients.

The oral inhabitants are opportunists and will invade the oral tissues, causing severe infections in patients with lower resistance to infection. Chemotherapy may also contribute to infections and breakdown of the oral mucosa.

1. You must brush your teeth after every meal and before bed, or four times a day. A Butler "right kind soft toothbrush" will be furnished. Take the brush and hold the bristles under hot water until they are soft and flexible. You may use toothpase if you choose, preferably a non-abrasive type such as Crest. Brush the teeth without touching the gums. (This technique will be demonstrated for you.) Follow the technique, covering all surfaces of the teeth, and thoroughly cleanse the oral cavity. Dentures must be cleaned four times a day, also. Use a "fizzing" denture cleaner, such as Polident, or manually remove particles from your dentures with a toothbrush.

2. After cleaning your teeth, stick your tongue out of your mouth and gently brush the top surface of it. The top surface looks like a terrycloth towel and provides an ideal environment for bacteria and fungi. By gently brushing the surface of the tongue, the total oral hygiene is improved. Many medications cause the tongue to become coated. It is important to remove the coat because it provides a protected environment for bacteria and fungi.

3. After thoroughly cleaning the teeth and tongue, rinse the mouth with one liter (quart) of warm water that has one tablespoon of salt and one tablespoon of baking soda dissolved in it. The solution should be placed in an irrigating bag with a narrow tip. Place the bag on a high hook or shower curtain rod and allow gravity to cause the water to flow. Direct the stream of warm water between the teeth to clean away food particles and rinse out the mouth. It makes an excellent throat gargle. The solution can be used as many times as necessary for comfort, but should be done a minimum of four times a day. DO NOT SWALLOW THE SOLUTION.

4. After cleansing the mouth, measure out 5 cc of mycostatin. Swish around your mouth for two minutes, gargle and swallow. Before placing the dentures back in your mouth, rinse them thoroughly in tap water. Next, squirt a small amount of mycostatin onto the roof of the dentures (where it will make contact with your mouth) and rub it around.

5. Do not eat or drink for thirty minutes after your total hygiene procedures.

6. After any between-meal liquid snacks, rinse your mouth with the warm salt and baking soda solution. For solid snacks, brushing is the preferred method to clean the mouth.

7. The toothbrush must be properly cleansed. After brushing, rinse the brush under hot water. Shake dry and place in an open glass to air dry until next use. You will be provided with one brush.

8. If any bleeding is noted during the procedures, take a wet guaze square and hold it with pressure against the bleeding site. The bleeding should stop in a few minutes. If not, inform a staff member. Examine your mouth every day for any signs of tenderness, bleeding, or infection. Notify your nurse or doctor of these occurrences.