肺結核外来化学療法の効果と近接成績

第5報　化学療法終了後の悪化に影響する因子の検討知見補遺

第1篇　化療終了時の拡り，化学療法種類の影響

結核予防会化学療法協同研究会議（委員長 岩崎　竜郎）

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緒　　言

われわれは昭和34年以来4回にわたつて，肺結核外来化学療法のX線学的改善と治療終了後のX線学的悪化とを左右すると思われる背景因子につき検討し報告した。化療終了後のX線学的悪化に関しては，年令，治療開始時の病型，終了時病型，終了時の病巣の拡りおよび最大病巣の大きさ，終了時のX線改善度，化療既往の有無，就労治療か自宅安静か，および化療の種類と期間の10因子をとりあげその影響を検討した。今までの成績では，外来治療の対象は大部分空洞のない，軽度進展例であるが，この程度の症例では年令，終了時の病型および最大病巣の大きさ，化療期間の4因子が終了後の悪化に影響することが明らかにされた。しかし終了時の病巣の拡り，3者併用などの影響については例数が少なく検討できなかつた。今回は昭和35年1月～12月間に化療を終了した症例を追加し初回治療2,520例，再治療944例について，上記の終了時病巣の拡り，3者併用の影響を検討した。

対象および方法

対象は昭和28年1月より35年12月までに外来で6カ月以上の化療を実施終了し，ひき続き観察しえた症例で，初回治療2,520，再治療944，計3,464例(男2,140，女1,324)である。この症例の治療開始時のBackground factorは第3報に報告したものとほぼ等しく，大部分は空洞のない（空洞例は11～13％）症例であり，拡りも一側肺の1/3以内か全例の3/4～4/5を占める軽症結核であるが，INH毎日PAS（以下Idp）併用および3者併用例の割合が第3報に比し，初回例の28％，再治療例の24.6％と前回の倍に増加し，治療期間は12カ月以上が初73％，再63％，18カ月以上は44％，34％となり，また終了後の観察期間も3年以上が，初37％，再41％，5年以上がそれぞれ12.0％，16.8％と増加している。調査方法も第3報に報告したのと同様である。

成　　績

Ⅰ．初回治療群における化療終了後のXPの悪化頻度

2,520例の化療期間は1年以上が73.0％，18カ月以上44％，2年以上23.0％で終了時空洞ありはわずか3％でCB 36％，CCおよびD 56％で大部分を占める。

（1）　終了時病型別にその悪化頻度をみると表1のように空洞型，B型の例数は少ないが悪化頻度は当然高く，ついでCB，CCの順となる。うちもつとも症例数の多いCB，CC群について年令別に悪化率をみると(表2)，30才以上群では～29才群に比し悪化は少なく，ことに終了時CB型ではその差が著しい。同年令層ではCB型はCC型より悪化が多い。この終了時CB，CC型について年令を～29才，30才以上の2群に分けて各群の化療終了時のBackground factorを表3に示した。CB，CC型を比較するとCC型のほうが化療期間長く，3者

Joint Reseach Committee of Chemotherapy of the Japan Anti-Tuberculosis Association (Chief : Tatsuro Iwasaki) (Japan Anti-Tuberculosis Association, Kanda Misaki-cho, Chiyoda-ku, Tokyo, Japan): The Results and Follow-up Study of the Ambulatory Chemotherapy on Pulmonary Tuberculosis. Report 5. (1) — Kekkaku, 38 (10) : 418～429, 1963.

Table 1. Radiological Aggravation after the Cessation of Chemotherapy, by Type of Lesion at the End of Original Treatment

Type of lesion at the end of chemotherapy \ Duration of observation after the end of chemotherapy		~5 months.	6~11m.	12~17m.	18~23m.	24~35m.	36~59m.	60m.~
B	Number obserbed	76	60	46	38	28	24	10
	Number aggravated	7 (9.2)	6 (18.3)	1 (20.1)	3 (26.4)	0 (26.4)	2 (32.5)	1 (39.0)
CB	Number observed	902	845	699	595	501	345	115
	Number aggravated	13 (1.4)	17 (3.3)	14 (5.2)	12 (7.1)	20 (10.8)	25 (17.2)	3 (19.4)
CC	Number observed	1,360	1,305	1,103	916	765	501	170
	Number aggravated	12 (0.9)	18 (2.3)	8 (3.0)	7 (3.8)	16 (5.8)	16 (8.7)	9 (13.5)
Tuberculoma	Number observed	47	46	37	29	25	18	10
	Number aggravated	0	1 (2.1)	(2.1)	(2.1)	1 (6.0)	(6.0)	(6.0)
Cavity	Number observed	81	74	58	48	34	22	7
	Number aggravated	2 (2.5)	3 (6.4)	3 (11.2)	5 (20.5)	3 (27.5)	2 (34.1)	1 (43.5)
Others	Number observed	54	53	44	40	37	26	8
	Number aggravated	(0.0)	1 (1.9)	(1.9)	(1.9)	2 (7.2)	(7.2)	(7.2)
Total	Number observed	2,520	2,383	1,987	1,664	1,390	936	320
	Number aggravated	34 (1.35)	46 (3.2)	26 (4.5)	27 (6.0)	42 (8.8)	45 (13.2)	14 (17.0)

Notes : Figures in parenthesis denote the cumulative rate of agrravation calculated by life table method.
B : Poorly defined shadow suggesting infiltrativecaseous foci.
CB : Intermediate type between types B and C.
CC : Well defined shadow with or without shrinkage suggesting fibrocaseous foci.

Table 2. Radiological Aggravation after the Cessation of Chemotherapy in the Cases of CB and CC Type of Lesion at the End of Original Treatmeat by Age

Type of lesion \ Age \ Duration of obsevation after the end of chemotherapy			~5 months.	6~11m.	12~17m.	18~23m.	24~35m.	36~59m.	60m.~
CB type lesion at the end of chemo-therapy	10~19	Number observed	143	138	113	95	79	51	10
		Number aggravated	1 (0.7)	5 (4.3)	7 (10.2)	4 (13.8)	3 (17.3)	11 (35.2)	0 (35.2)
	20~29	Number observed	356	331	268	226	191	125	44
		Number aggravated	9 (2.5)	7 (4.5)	4 (6.0)	4 (7.6)	12 (13.4)	9 (19.7)	1 (21.5)
	30~39	Number observed	221	207	168	143	118	85	34
		Number aggravated	2 (0.9)	5 (3.3)	3 (5.0)	3 (7.0)	4 (10.1)	1 (11.2)	0 (11.2)
	40~	Number observed	182	169	150	131	113	84	27
		Number aggravated	1 (0.6)	0 (0.6)	0 (0.6)	1 (1.3)	1 (2.2)	4 (6.9)	2 (13.8)
	Total	Number observed	902	845	699	595	501	345	115
		Number aggravated	13 (1.4)	17 (3.3)	14 (5.2)	12 (7.1)	20 (10.8)	25 (17.2)	3 (19.4)

Type of lesion	Age		Duration of observation after the end of chemotherapy: ~5 months.	6~11m.	12~17m.	18~23m.	24~35m.	36~59m.	60m.~
CC type lesion at the end of chemotherapy	10~19	Number observed	269	256	220	176	144	80	28
		Number aggravated	1 (0.4)	9 (3.9)	5 (6.1)	1 (6.6)	6 (10.5)	1 (11.6)	5 (27.3)
	20~29	Number observed	520	497	399	334	278	117	65
		Number aggravated	9 (1.7)	7 (2.1)	1 (2.4)	3 (3.2)	6 (5.3)	8 (9.5)	2 (12.3)
	30~39	Number observed	330	322	277	234	199	142	46
		Number aggravated	0 (0.0)	2 (0.3)	2 (1.0)	3 (2.3)	2 (3.3)	5 (6.6)	1 (8.7)
	40~	Number observed	238	230	207	172	144	102	31
		Number aggravated	2 (0.8)	0 (0.8)	0 (0.8)	0 (0.8)	2 (2.2)	2 (4.1)	1 (7.2)
	Total	Number observed	1,360	1,305	1,103	916	765	501	170
		Number aggravated	12 (0.9)	18 (2.3)	8 (3.0)	7 (3.8)	16 (5.8)	16 (8.7)	9 (13.5)

Notes: Figures in parenthesis denote the cumulative rate of aggravation calculated by life table method.

+Idp の割合も CB 型に比し多い。同一病型では ~29才，30才~ の2群間には開始時病型が ~29才群に新しいものが多く，また30才以上群に拡りが広く，病巣の大きいものが多い。表1にみられるように悪化は終了後の期間に関係なく，毎年同じような割合で生じていることが分かる。CB 型では年間およそ4%，CC 型では2%前後である。

（2） 終了時 CB，CC 型について年令別，治療期間別に悪化頻度をみたのが表4，5である。各群とも1年未満より1年以上，さらに1年半以上と化療期間が長いほど悪化は少なく，ことに CB 型群ではその関係が著しい。

Ⅱ．再治療群における化療終了後の XP の悪化頻度

944例の化療期間は 1 年以上63.0%，18カ月以上34.0%，2年以上約19%で終了時には空洞あり約7%，CB 34%，CC あるいは D 53%と初回例に比し化療期間やや短く，空洞残存例もあるが，CB，CC 型が大部分を占める軽症結核である点は同じである。

（1） 終了時病型 CB，CC 型について年令別に悪化頻度をみると表6に示すように CB 型は CC 型より悪化率高く，~29才群は30才以上群に比し悪化は多く，初回例におけると同様の傾向がみられる。初回例に比較すると CB 型においてとくに悪化率は高いようであるが，各群の終了時の Background factor は表7に示すごとく，初回例（表3）とやや異なり，再治療例は初回例に比し化療期間の短いもの多く，Iip の割合が多く，また拡りや最大病巣の大きなものが多い。したがつて Background factor をマッチさせて比較しないと初回例と再治療例とで CB 型の場合に終了後の悪化が異なるか否かは決められない。このような比較を行なつた第4報の成績では両群間に有意差は認められていない。

（2） 終了時 CB，CC 型につき年令別，化療期間別にみた悪化頻度を表8，9に示す。各群の症例数少なく，初回例ほどはつきりした化療期間の影響は認められていない。

Ⅲ．化療終了後のX線学的悪化に影響する因子の検討
（他の諸因子を同じ割合に含む群間の比較）

終了後の悪化に影響する因子の検討については，今回は目的とする因子以外の Background factor 中，とくに今までの成績でその影響が明らかにされている年令，終了時病型，最大病巣の大きさ，化療期間および Iip と3者併用+Idp の割合の5因子については必ず比較各群間に同じ割合に含まれるようマッチさせた症例群を用いて以下の因子の影響を検討した。なお悪化率は Life table 法による累積悪化率を用い有意差の検討は第3報第2篇記載の方法によつた。

（1） 化療種類

前回までに3者併用と INH 毎日 PAS 法の比較（第4報）と Sip→Iip 群と Iip 群での比較（第3報第2篇）を行ない，前者では差はなく，後者では Iip 群に悪化のやや多いこと（有意差にはなつていない）が認められた。したがつて今回は初回例を用いて，3者+Idp, Sip→Iip, Iip の3群間で終了時病型，年令，治療期間，終了時拡り，終了時最大病巣の大きさの Background factor を一定として比較し，あわせて，Sip→Iip 群と Iip 群との比較も再検討することにした。成績は表10に示したごとく，＊印は有意差が認められる時点を示してあるが，3者+Idp 群は Sip→Iip あるいは Iip 群より明らかに

Table 3. Background Factors in the Different Age Groups of CB and CC Type Lesions at the End of Original Treatment

Type of lesion at the end of chemotherapy		CB type lesion				CC type lesion			
Age group		Under 29 years		30 years and over		Under 29 years		30 years and over	
		Number observed	Percent	Number observed	Percent	Number observed	Percent	Number observed	Percent
Total		499	100.0	403	100.0	789	100.0	571	100.0
Type of lesion at the beginning of chemotherapy	A	16	3.2	9	2.2	24	3.0	4	0.7
	B	258	51.6	151	37.4	313	40.0	123	21.6
	CB	171	34.2	209	52.0	247	31.0	234	41.0
	CC	2	0.4			104	13.2	176	30.8
	Cavity	50	10.0	34	8.4	91	11.5	27	4.7
	Others	2	0.4			10	1.3	7	1.2
Duration of chemotherapy (months)	6～11	182	36.5	117	29.0	171	21.6	125	21.8
	12～17	147	29.5	120	29.8	205	26.0	173	30.2
	18～23	83	16.6	74	18.3	192	24.4	132	23.2
	24～35	79	15.8	89	22.2	189	24.0	129	22.6
	36～	8	1.6	3	0.7	32	4.0	12	2.1
Regimen of chemotherapy*	Sip	105	21.0	58	14.4	109	14.8	44	7.7
	Sip→Iip	120	24.0	73	18.1	173	22.0	83	14.6
	Iip	142	28.5	143	35.4	208	26.4	221	38.7
	Idp	52	10.4	58	14.4	124	15.7	126	22.0
	SIp	56	11.2	52	12.9	132	16.7	58	10.2
	Others	24	4.8	19	4.7	43	5.4	39	6.8
Extent of lesion at the end of treatment**	1	331	66.3	166	41.0	607	77.0	311	54.5
	2	130	26.1	181	45.0	160	20.2	197	34.4
	3	37	7.4	56	14.0	22	2.8	63	11.1
	4	1	0.2						
Maximal size of lesion at the end of treatment***	1	107	21.5	46	11.4	359	45.5	168	29.5
	2	259	52.0	204	50.5	324	41.0	252	44.0
	3	121	24.1	115	28.5	90	11.4	117	20.5
	4	11	2.2	37	9.2	15	1.9	33	5.8
	5	1	0.2	1	0.2	1	0.1	1	0.2

* Regimen of chemotherapy.
Sip : SM twice weekly+PAS.
Sip→Iip : SM twice weekly+PAS for longer than 6 months followed by INH twice weekly+PAS.
Iip : INH twice weekly+PAS.
Idp : INH daily+PAS.
SIp : SM twice weekly+INH+PAS.

** Extent of lesion.
Extent 1 : Less than 1/6 of one lung field.
〃 2 : 1/6～1/3 of one lung field.
〃 3 : 1/3～1 one lung field.
〃 4 : more than one lung field.

*** Maximal size of lesion.
1 : Less than 0.5 cm.
2 : 0.5～0.9 cm.
3 : 1.0～1.9 cm.
4 : 2.0～3.9 cm.
5 : 4.0 cm and over.

Table 4. Radiological Aggravation after the Cessation of Chemotherapy in the Cases of CB Type Lesion at the End of Original Treatment, by Age Group and Duration of Chemotherapy

Age group	Duration of treatment	Duration of observation after the end of chemotherapy	~5 months.	6~11m.	12~17m.	18~23m.	24~35m.	36~59m.	60m.~
~29 years old	6~11 months.	Number observed	182	166	135	116	97	65	21
		Number aggravated	5 (2.7)	8 (7.4)	7 (12.2)	3 (14.5)	6 (19.8)	12 (34.6)	1 (37.8)
	12~17 m.	Number observed	147	138	119	95	80	55	23
		Number aggravated	4 (2.7)	2 (4.1)	2 (5.7)	4 (9.7)	3 (13.1)	6 (22.4)	0 (22.4)
	18~23 m.	Number observed	83	81	58	52	48	29	5
		Number aggravated	1 (1.2)	2 (3.6)	0 (3.6)	0 (3.6)	3 (9.7)	2 (15.9)	0 (15.9)
	24m.~	Number observed	87	84	69	58	45	27	5
		Number aggravated	0 (0.0)	0 (0.0)	2 (2.9)	1 (4.6)	3 (11.0)	0 (11.0)	0 (11.0)
	Total	Number observed	499	469	381	321	270	176	54
		Number aggravated	10 (2.0)	12 (4.5)	11 (7.3)	8 (9.6)	15 (14.5)	20 (24.3)	1 (25.7)
30 years old and over	6~11 m.	Number observed	117	110	93	84	75	58	27
		Number aggravated	0 (0.0)	2 (1.8)	0 (1.8)	2 (4.2)	2 (6.7)	3 (11.5)	2 (18.1)
	12~17 m.	Number observed	120	114	99	82	67	55	18
		Number aggravated	0 (0.0)	2 (1.8)	1 (2.7)	1 (3.9)	0 (3.9)	1 (5.7)	0 (5.7)
	18~23 m.	Number observed	74	64	52	43	36	20	9
		Number aggravated	3 (4.1)	0 (4.1)	0 (4.1)	1 (6.3)	2 (11.5)	1 (15.9)	0 (15.9)
	24m.~	Number observed	92	88	74	65	53	36	7
		Number aggravated	0 (0.0)	1 (1.1)	2 (3.8)	0 (3.8)	1 (5.6)	0 (5.6)	0 (5.6)
	Total	Number observed	403	376	318	274	231	169	61
		Number aggravated	3 (0.8)	5 (2.1)	3 (3.0)	4 (4.4)	5 (6.5)	5 (9.2)	2 (12.2)

Notes: Figures in parenthesis denote the cumulative rate of aggravation calculated by life table method.

悪化は少ない。Sip→Iip 群と Iip 群との差は明らかとはいえない。

（2） 終了時の最大病巣の大きさ

第4報までの成績では 1 *cm* 以上の病巣を有する例では 1 *cm* 未満の病巣のみの例より悪化の多いことが示されたが，今回は ~0.5 *cm* と 0.5~1 *cm* 未満の2群間の比較で，初回例について行なつた。両群の Background factor，すなわち終了時病型，終了時拡り，治療期間治療法種類，年令を一定として比較すると両群間に差は認められない（表11）。

（3） 病巣の拡り

拡りの点については症例の大部分が一側肺の 1/3 以内のため他の Background factor を揃えて 1/3 以内とそれ以上のものとの比較は症例が少なくできなかつたが，今回は 1/3 以内のうちさらに 1/6 以内（以下拡り1とする）と，1/6 以上 1/3 以内（拡り2），拡り2と拡り3（1/3 以上一側肺以内）の組合せで終了時病巣の拡りの悪化への影響をみた。まず拡り1と2の比較は初回例で拡り以外の5因子を一定とした群についてみた結果，拡り2は1より明らかに悪化率は高い（表12）。つぎに拡り2と3の比較では初回例で同様に Background factor を揃えて比較すると，悪化率は表13に示すようになり両群間に有意差は認められない。（考察および結論は第2篇において一括して述べる。文献略）

Table 5. Radiological Aggravation after the Cessation of Chemotherapy in the Cases of CC Type Lesion at the End of Original Treatment, by Age Group and Duration of Chemotherapy

Age group	Duration of treatment	Duration of observation after the end of chemotherapy	~5 months.	6~11m.	12~17m.	18~23m.	24~35m.	36~59m.	60m.~
10~29 years old	6~11 months.	Number observed	171	161	125	102	89	63	31
		Number aggravated	4 (2.3)	3 (4.2)	2 (5.7)	0 (5.7)	3 (8.8)	3 (13.2)	1 (15.9)
	12~17 m.	Number observed	205	195	163	139	106	69	29
		Number aggravated	4 (2.0)	6 (5.0)	2 (6.1)	3 (7.3)	4 (10.8)	3 (14.6)	4 (26.4)
	18~23 m.	Number observed	192	183	153	120	100	60	17
		Number aggravated	0 (0.0)	1 (0.6)	1 (1.2)	1 (2.0)	1 (3.0)	3 (7.8)	0 (7.8)
	24m.~	Number observed	221	214	178	149	127	65	16
		Number aggravated	2 (0.9)	6 (3.7)	1 (4.2)	0 (4.2)	4 (7.2)	0 (7.2)	2 (18.8)
	Total	Number observed	789	753	619	510	422	257	93
		Number aggravated	10 (1.3)	16 (3.4)	6 (4.3)	4 (5.0)	12 (7.7)	9 (10.9)	7 (17.6)
30 years old and over	6~11m.	Number observed	125	119	105	97	89	76	30
		Number aggravated	1 (0.8)	0 (0.8)	0 (0.8)	1 (1.8)	1 (2.9)	4 (8.0)	1 (11.1)
	12~17 m.	Number observed	173	170	147	123	100	67	22
		Number aggravated	1 (0.6)	1 (1.2)	0 (1.2)	1 (2.0)	1 (2.9)	1 (4.4)	0 (4.4)
	18~23 m.	Number observed	132	126	111	86	71	52	12
		Number aggravated	0 (0.0)	1 (0.8)	0 (0.8)	0 (0.8)	1 (2.2)	1 (4.1)	0 (4.1)
	24m.~	Number observed	141	137	121	100	83	49	13
		Number aggravated	0 (0.0)	0 (0.0)	2 (1.7)	1 (2.6)	1 (3.8)	1 (5.8)	1 (13.1)
	Total	Number observed	571	552	484	406	343	244	77
		Number aggravated	2 (0.4)	2 (0.7)	2 (1.1)	3 (1.8)	4 (3.0)	7 (5.7)	2 (8.2)

Notes : Figures in parenthesis denote the cumulative rate of aggravation calculated by life table method.

Table 6. Radiological Aggravation after the Cessation of Chemotherapy in the Cases of CB and CC Type Lesion at the End of Retreatment, by Age group

Type of lesion at the end of chemo-therapy	Age group in years	Duration of observation after the end of chemotherapy	~5 months.	6~11m.	12~17m.	18~23m.	24~35m.	36~59m.	60m.~
CB	10~19	Number observed	41	38	30	28	22	13	10
		Number aggravated	2 (4.9)	3 (12.4)	1 (19.3)	1 (18.3)	1 (29.1)	1 (27.9)	0 (27.9)
	20~29	Number observed	150	137	117	99	83	59	16
		Number aggravated	3 (2.0)	6 (6.3)	3 (8.7)	4 (12.4)	2 (14.5)	6 (23.2)	0 (23.2)
	30~39	Number observed	93	87	77	66	51	30	12
		Number aggravated	2 (2.2)	2 (4.4)	0 (4.4)	1 (5.8)	3 (11.4)	2 (17.3)	0 (17.3)
	40~	Number observed	43	40	36	34	31	23	7
		Number aggravated	1 (2.3)	0 (2.3)	0 (2.3)	0 (2.3)	3 (11.8)	4 (27.1)	0 (27.1)
	Total	Number observed	327	302	260	227	187	125	45
		Number aggravated	8 (2.4)	11 (5.9)	4 (7.3)	6 (9.7)	9 (14.0)	13 (22.9)	0 (22.9)
CC	10~19	Number observed	46	44	40	36	30	20	11
		Number aggravated	1 (2.1)	2 (6.5)	2 (11.2)	0 (11.2)	1 (14.1)	1 (18.4)	2 (33.3)
	20~29	Number observed	236	228	192	157	131	95	37
		Number aggravated	2 (0.8)	5 (3.0)	3 (4.6)	1 (5.2)	3 (7.4)	3 (10.4)	1 (12.8)
	30~39	Number observed	136	131	120	111	92	57	28
		Number aggravated	1 (0.7)	1 (1.5)	0 (1.5)	1 (2.4)	1 (3.5)	4 (10.3)	0 (10.3)
	40~	Number observed	72	69	59	53	44	28	16
		Number aggravated	0 (0.0)	1 (1.4)	0 (1.4)	0 (1.4)	0 (1.4)	2 (8.4)	0 (8.4)
	Total	Number observed	490	472	411	357	297	200	92
		Number aggravated	4 (0.7)	9 (2.6)	5 (3.8)	2 (4.3)	5 (5.9)	10 (10.6)	3 (13.6)

Notes: Figures in parenthesis denote the cumulative rate of aggravation calculated by life table method.

Table 7. Background Factors in the Different Age Groups of CB and CC Type Lesions at the End of Retreatment

Type of lesion at the end of chemotherapy		CB type lesion				CC type lesion			
Age group		Under 29 years		30 years and over		Under 29 years		30 years and over	
		Number observed	Percent	Number observed	Percent	Number observed	Percent	Number observed	Percent
Total		191	100.0	136	100.0	282	100.0	208	100.0
Type of lesion at the beginning of chemotherapy	A	4	2.1	2	1.5	4	1.4	1	0.5
	B	75	39.2	30	22.1	40	14.2	26	12.5
	CB	98	51.4	94	69.1	134	47.5	64	30.8
	CC	2	1.0			83	29.4	100	48.0
	Cavity	11	5.8	9	6.6	19	6.7	17	8.2
	Others	1	0.5	1	0.7	2	0.7		
Duration of chemotherapy (months)	6～11	84	44.0	51	37.5	82	29.0	73	35.0
	12～17	56	29.4	32	23.5	97	34.4	59	28.4
	18～23	27	14.1	22	16.2	44	15.6	33	16.0
	24～35	22	11.5	30	22.1	45	16.0	35	16.8
	36～	2	1.0	1	0.7	14	5.0	8	3.8
Regimen of chemotherapy	Sip	24	12.6	6	4.4	14	5.0	5	2.4
	Sip→Iip	17	8.9	14	10.3	23	8.1	19	9.1
	Iip	112	58.5	70	51.5	146	52.0	107	51.5
	SIp	15	7.9	25	18.4	46	16.3	40	19.2
	Idp	13	6.8	14	10.3	30	10.6	22	10.6
	Others	10	5.3	7	5.1	23	8.1	15	7.2
Extent of lesion at the end of chemotherapy	1	90	47.2	65	48.0	170	60.2	75	36.0
	2	74	38.8	39	28.6	80	28.4	74	35.6
	3	25	13.0	29	21.3	31	11.0	54	26.0
	4	2	1.0	3	2.2	1	0.4	5	2.4
	5								
Maximal size of lesion at the end of chemotherapy	1	24	12.6	16	11.7	92	32.6	36	17.3
	2	100	52.4	60	44.0	129	45.8	92	44.2
	3	60	31.4	48	35.2	56	19.8	70	33.6
	4	6	3.1	11	15.0	5	1.8	9	4.3
	5	1	0.5	1	0.7			1	0.5

Notes : Same to Table 3.

Table 8. Radiological Aggravation after the Cessation of chemotherapy in the Cases of CB Type Lesion at the End of Retreatment, by Age group and Duration of Chemotherapy

Age group	Duration of treatment	Duration of observation after the end of chemotherpy	~5 months.	6~11m.	12~17m.	18~23m.	24~35m.	36~59m.	60m.~
10~29 years old	6~11 months.	Number observed	84	71	60	53	49	32	17
		Number aggravated	5 (5.9)	4 (11.2)	2 (14.1)	1 (15.7)	2 (19.1)	1 (21.6)	0 (21.6)
	12~17 m.	Number observed	56	55	45	40	28	20	8
		Number aggravated	0 (0.0)	3 (5.5)	0 (5.5)	3 (12.6)	0 (12.6)	1 (17.0)	0 (17.0)
	18~23 m.	Number observed	27	25	19	16	14	10	1
		Number aggravated	0 (0.0)	2 (8.0)	1 (12.8)	0 (12.8)	0 (12.8)	3 (38.9)	0 (38.9)
	24m.~	Number observed	24	24	23	18	14	10	0
		Number aggravated	0 (0.0)	0 (0.0)	1 (4.3)	1 (9.6)	1 (16.0)	2 (32.8)	0 (32.8)
	Total	Number observed	191	175	147	127	105	72	26
		Number aggravated	5 (2.6)	9 (7.6)	4 (10.1)	5 (13.6)	3 (16.1)	7 (24.2)	0 (24.0)
30 years old and over	6~11 m.	Number observed	51	46	42	36	27	19	9
		Number aggravated	2 (4.0)	1 (6.0)	0 (6.0)	1 (8.0)	2 (15.4)	2 (24.3)	0 (24.3)
	12~17 m.	Number observed	32	31	28	25	21	13	5
		Number aggravated	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (9.5)	3 (30.4)	0 (30.4)
	18~23 m.	Number observed	22	20	17	15	13	9	3
		Number aggravated	1 (4.5)	1 (9.3)	0 (9.3)	0 (9.3)	1 (16.2)	1 (25.4)	0 (25.4)
	24m.~	Number observed	31	30	26	24	21	12	2
		Number aggravated	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.8)	0 (4.8)	0 (4.8)
	Total	Number observed	136	127	113	100	82	53	19
		Number aggravated	3 (2.2)	2 (3.8)	0 (3.8)	1 (4.8)	6 (11.7)	6 (21.7)	0 (21.7)

Notes : Figures in parenthesis denote the cumulative rate of aggravation calculated by life table method.

Table 9. Radiological Aggravation after the Cessation of Chemotherapy in the Cases of CC Type Lesion at the End of Retreament, by Age Group and Duration of Chemotherapy

Ag group	Duration of treatment	Duration of observation after the end chemotherapy	~5 months.	6~11m.	12~17m.	18~23m.	24~35m.	36~59m.	60m.~
10~29 years old	6~11 months.	Number observed	82	78	69	59	56	43	23
		Number aggravated	1 (1.2)	3 (4.9)	1 (6.2)	0 (6.2)	2 (9.6)	2 (13.8)	2 (20.3)
	12~17 m.	Number observed	97	93	82	69	57	40	18
		Number aggravated	2 (2.1)	3 (5.2)	2 (7.6)	0 (7.6)	0 (7.6)	0 (7.6)	1 (12.7)
	18~23 m.	Number observed	44	43	38	30	24	16	3
		Number aggravated	0 (0.0)	1 (2.3)	2 (7.5)	0 (7.5)	0 (7.5)	0 (7.5)	0 (7.5)
	24m.~	Number observed	59	58	43	35	24	16	4
		Number aggravated	0 (0.0)	0 (0.0)	1 (2.3)	1 (5.0)	2 (12.9)	1 (18.3)	0 (18.3)
	Total	Number observed	282	272	232	193	161	115	48
		Number aggravated	3 (1.1)	7 (3.3)	5 (5.4)	1 (5.9)	4 (10.4)	4 (13.5)	3 (18.9)
30 years old and over	6~11 m.	Number observed	73	72	63	58	50	42	22
		Number aggravated	0 (0.0)	1 (1.4)	0 (1.4)	0 (1.4)	0 (1.4)	1 (3.8)	0 (3.8)
	12~17 m.	Number observed	59	56	53	50	43	26	13
		Number aggravated	0 (0.0)	1 (1.8)	0 (1.8)	1 (3.8)	0 (3.8)	3 (14.9)	0 (14.9)
	18~23 m.	Number observed	33	33	27	24	22	14	5
		Number aggravated	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.5)	2 (18.2)	0 (18.2)
	24m.~	Number observed	43	39	36	32	21	13	4
		Number aggravated	1 (2.3)	0 (2.3)	0 (2.3)	0 (2.3)	0 (2.3)	0 (2.3)	0 (2.3)
	Total	Number observed	208	200	179	164	136	85	44
		Number aggravated	1 (0.5)	2 (1.4)	0 (1.4)	1 (2.0)	1 (2.7)	6 (9.5)	0 (9.5)

Notes : Figures in parethesis denote the cumulative rate of aggravation calculated by life table method.

Table 10. Radiological Aggravation after the Cessation of Chemotherapy, by the Regimen of Chemotherapy in Original-Treatment Cases

Duration of observation after the end of chemotherapy (months)			~5m.	6~11m.	12~17m.	18~23m.	24~35m.	36~47m.	48m.~
Regimen of chemotherapy	SIp + Idp	Number observed	291	283	246	206	163	99	45
		Number aggravated	2	4	2	1	0	1	3
		Cumulative rate of aggravation (%)	0.7	2.09	2.88	3.35*	3.35*	4.32*	10.72
	Sip ↓ Iip	Number observed	291	274	229	190	169	116	79
		Number aggravated	3	6	2	3	7	1	2
		Cumulative rate of aggravation (%)	1.03	3.20	4.04	6.55*	10.38*	11.15*	13.27
	Iip	Number observed	291	276	226	190	161	111	67
		Number aggravated	5	8	4	1	5	8	2
		Cumulative rate of aggravation (%)	1.74	4.54	6.23	6.73*	9.62*	16.12*	18.63

* Difference between the cumulative rate of aggravation by the regimen of chemotherapy is significant at 5% level.

Table 11. Radiological Aggravation after the Cessation of Chemotherapy by the Maximal-Size of Lesion at the End of Original Treatment

Duration of observation after the end of chemotherapy (months)			~5m.	6~11m.	12~17m.	18~23m.	24~35m.	36~47m.	48m.~
Maximal Size of lesion at the end of Chemotherapy	~0.5 cm	Number observed	545	530	457	380	319	217	121
		Number aggravated	2	10	3	4	7	6	6
		Cumulative rate of aggravation (%)	0.37	2.25	2.89	3.91	6.02	8.61	13.13
	0.5cm ~ 1cm	Number observed	545	521	430	360	302	197	116
		Number aggravated	6	9	6	4	4	5	4
		Cumulative rate of aggravation (%)	1.1	2.81	4.17	5.23	6.48	6.85	10.05

Table 12. Radiological Aggravation after the Cessation of Chemotherapy, by the the Extent of Lesion at the End of Original Treatment

Duration of observation after the end of chemotherapy (months)			~5m.	6~11m.	12~17m.	18~23m.	24~35m.	36~47m.	48m.~
Extent of lesion at the end of chemotherapy	less than of one lung field	Number observed	533	510	435	366	309	198	110
		Number aggravated	3	8	5	2	8	8	4
		Cumulative rate of aggravation (%)	0.56	2.12	3.24	3.77*	6.27*	10.05	13.30
	1/6~1/3 of one lung field	Number observed	533	498	429	365	305	217	132
		Number aggravated	9	11	8	7	8	4	5
		Cumulative rate of aggravation (%)	1.69	3.85	5.64	7.45*	9.87*	11.52	16.87

* Difference between the cumulative rate of aggravation by extent of lesion is significant at 5% level.

Table 13. Radiological Aggravation after the Cessation of Chemotherapy, by Extent of lesion at the End of Original Treatment

Duration of observation after the end of chemotherapy (months)			~5m.	6~11m.	12~17m.	18~23m.	24~35m.	36~47m.	48m.~
Extent of lesion at the end of chemotherapy	1/6~1/3 of one lung field	Number observed	164	155	125	107	94	69	45
		Number aggravated	3	4	2	0	4	4	1
		Cumulative rate of aggravation (%)	1.83	4.36	5.89	5.89	9.90	15.12	16.98
	1/3~1 lung field	Number observed	164	149	125	105	96	71	54
		Number aggravated	1	1	1	2	3	2	1
		Cumulative rate of aggravation (%)	0.61	1.27	2.06	3.92	6.91	9.53	11.20

The Results and Follow-up Study of the Ambulatory Chemotherapy on Pulmonary Tuberculosis. Report 5. Analysis on the factors influencing the aggravation after the cessation of chemotherapy. No. 1. On the influence of the extent of pulmonary lesion at the end of treatment and that of the regimen of chemotherapy.

In the previous reports, the anthors made analysis on the factors influencing the radiological aggravation after the cessation of chemotherapy and came to the conclusion that the aggravation was different by age, duration of chemotherapy, maximal size and type of pulmonary lesion at the end of treatment.

In the present report, the authors made further analysis on the factors influencing radiological aggravation after the cessation of treatment on 3464 cases of pulmonary tuberculosis treated at out-patient clinics of Japan Antituberculosis Association. Among 3464 cases, 2520 were original treatment cases and 944 were retreatment cases, and and follow-up period after the cessation of treatment was the following: 0~1 year 710, 1.1~2 years 815, 2.1~3 years 622, 3.1~5 years 856, and longer than 5 years 461.

When analysis was made on one factor, comparison was carried out among cases with the same back ground factors regarding other factors.

The results were as follows:

1) Radiological aggravation after the cessation of chemotherapy was significantly lower in the group consisted of cases treated by INH daily and PAS or triple drug combination with SM, INH and PAS (SM twice weekly) than the group treated by SM twice weekly and PAS followed by INH twice weekly and PAS or the group treated by INH twice weekly and PAS. The difference among the latter two groups was not significant.

2) No significant difference was found in radiological aggravation after the cessation of chemotherapy between the group with maximal size of pulmonaly lesion smaller than 0.5 cm at the end of treatment and that with 0.5~0.9 cm.

3) Radiological aggravation was significantly higher in the group with extent of pulmonary lesion 1/6~1/3 of one lung field at the end of treatment than that with less than 1/6, but no significant difference was found between the group with 1/6~1/3 and that with 1/3~1 lung field.