

The Dust Prevention for Carpenters - The Grassroots Activity on Construction Site in Tokyo-

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I. Background of the activity

Japan imported approximately 10 million ton asbestos since 1950's. It is considered more than 90 % of asbestos was used for raw materials on construction site. Construction workers sprayed, cut and processed them without protective equipment for long hours per day.

However the Pneumoconiosis law could not provide adequate treatment for carpenters although silicosis and asbestosis among carpenters were increasing.

So Japan Federation of Construction Workers' Union (JFCWU) Tokyo branch (156.000 members) in cooperate with Tokyo Occupational Safety and Health Center (TOSHC) and Kameido Himawari Clinic (KHC) started dust prevention program for construction workers at grassroots level since the end of 1990's.

II. Methods

The prevention program consist from 3 parts such as radiograph screening, medical documentation screening, and precautionary training. Since 1998, by using X-Ray films which were taken at periodic health examination, we started pneumoconiosis and asbestos health check.

2 professional physicians checked 7000 to 8000 X-Ray films of construction workers every year against the Japanese Standard Pneumoconiosis Films by Ministry Health Labour and Welfare.

As medical doctor of KHC was nominated advisory doctor of Construction Health Insurance Association since 2000, we started to check all medical documentations to identify occupational respiratory diseases such as lung cancer, mesothelioma, bronchitis etc.

TOSHC and the Safety and Health Committee of JFCWU developed the action oriented precautionary training on construction site and labour union carried out it 36 times since 2002.

III. Result

Table 1 shows the result of radiograph screening of male workers on construction site. Every year we observed 16.1-18.8 % of more than 0/1 X-Ray films, and over 1/0 was 0.8-1.2 %. There was 1.3-4.3% Pleural plaques every year. More than 0/1 of pneumoconiosis of 60's was 32.0-40% and in the age of 70's was 38.0-53.0%.

We checked 13,300 construction workers chest X-Ray films for 8 years, and workers whose X-Ray classification were more than Category II were 238 (1.8%). (Table 2)

Table 3 shows the result of medical documentation screening. The advisory doctor chose 159 relevant cases from 2000 to 2006. The advisory health nurse visited their houses and interviewed them about relationship between occupational disease and their disease. 17 cases were certified by government as occupational diseases.

Since 2002, the training course on workplace improvement launched. We developed the training kit including the action checklist. In the training, 10 to 15 workers visit the construction site of labour union member's and learn from actual working condition by using the action checklist. After they come back to training venue, they discuss and identify good points and points to be improved at the visited construction site. They make the recommendation to workers of visited place, and all participants apply good points to their construction site. This training program is contributing for dust reduction. (Photo 1,2)



Photo 1 The Action checklist and the training course



Photo 2 Dust reduction good examples on construction site

IV. Conclusion

More than 0/1 of pneumoconiosis was observed in 18% X-Ray films of construction male workers in Tokyo. Pleural plaques were observed in 2.5% X-Ray films. 36% of 60's construction male workers in Tokyo had more than 0/1 of pneumoconiosis and pleural plaques were 6%. This result suggest that construction workers in Tokyo were exposed by mineral dust and asbestos fiber for a long term without protective equipment.

X-Ray screening and medical documentation screening found approximately 400 victims among construction workers in Tokyo.

However X-Ray films that we observed were only less than 30 % of construction workers in Tokyo. More surveillance should be conducted.

Also the precautionary program is valuable for dust reduction and promote workers' awareness. It should be introduced into more workers.

Asbestos was banned since 2006 in Japan. However we are sure that thousands of victims will appear year after year. The need of grassroots dust prevention activity on construction site is becoming higher day by day.

Table 1 The result of radiograph screening in 2000-2007 (Male worker on construction site in Tokyo)

	Rate of 0/1 <	The range of age						Rate of 1/0 <	
		30<	30-39	40-49	50-59	60-69	70<		
2000	pneumoconiosis Rate of 0/1 < (%) Pleural plaques %	797 18.8 184 4.3	1 0.2 0 0.0	10 1.1 1 0.1	114 13.4 20 2.4	299 26.4 70 6.2	306 39.5 81 10.5	53 53.0 12 12.0	52 1.2
	Total number	4248	491	301	849	1133	774	160	4248
2001	pneumoconiosis Rate of 0/1 < (%) Pleural plaques %	773 17.6 154 3.5	3 0.6 0 0.0	17 1.8 0 0.0	86 10.5 16 2.0	275 24.7 48 4.3	317 36.6 78 9.0	75 54.3 12 8.7	59 1.3
	Total number	4404	505	363	819	1113	866	138	4404
2002	pneumoconiosis Rate of 0/1 < (%) Pleural plaques %	843 18.0 126 2.7	1 0.0 0 0.0	14 1.4 0 0.1	82 10.8 10 1.2	311 26.2 36 3.0	343 36.5 66 7.0	82 50.3 13 8.0	50 1.1
	Total number	4675	504	1033	849	1186	840	163	4675
2003	pneumoconiosis Rate of 0/1 < (%) Pleural plaques %	780 16.1 81 1.7	4 0.8 0 0.0	10 0.9 0 0.0	71 8.2 6 0.7	279 22.8 19 1.5	314 33.3 40 4.2	102 44.3 16 7.0	38 0.8
	Total number	4848	491	1092	867	1226	942	230	4848
2004	pneumoconiosis Rate of 0/1 < (%) Pleural plaques %	891 16.9 71 1.3	2 0.4 0 0.0	20 1.6 1 0.1	83 8.7 3 0.3	328 25.7 22 1.7	347 33.7 31 3.0	111 43.9 14 5.5	37 0.9
	Total number	5278	519	1246	952	1277	1031	253	5278
2005	pneumoconiosis Rate of 0/1 < (%) Pleural plaques %	888 18.4 91 1.9	2 0.4 0 0.0	19 1.7 3 0.3	82 10.2 11 1.2	289 24.6 27 2.3	359 38.3 33 3.5	128 47.1 17 6.3	45 0.9
	Total number	4827	449	1101	898	1169	938	272	4827
2006	pneumoconiosis Rate of 0/1 < (%) Pleural plaques %	1071 19.4 135 2.4	1 0.2 0 0.0	26 1.9 0 0.0	108 10.7 7 0.7	358 27.3 50 3.8	413 40.0 48 4.8	165 49.5 28 8.4	48 0.9
	Total number	5523	483	1351	1011	1313	1032	333	5523
2007	pneumoconiosis Rate of 0/1 < (%) Pleural plaques %	1025 16.6 143 2.3	2 0.4 1 0.2	11 0.8 0 0.0	108 9.1 0 0.0	328 24.0 47 3.4	413 32.0 67 5.2	163 46.0 28 6.5	52 0.8
	Total number	6185	482	1447	1192	1365	1290	429	6185

Table 2 The number of patients who classified more than Category II (number of patient 2000-2007 238 (1.8%))

1/0	1/1	1/2	2/1	2/2	2/3	3/2	3/+	Total	Pleural plaques
80	24	8	5	3	1	1	1	123	119

Table 3 The result of medical documentation screening (2000-2006)

2000	2001	2002	2003	2004	2005	2006	Total	The number of certified
18	32	35	36	10	12	16	159	17