

27th July, 1954.

Industrial Diseases

Notes on the report
by Dr. Doll and Dr. Knox

From a first reading of the report, it would seem that in some important respects the conclusions reached are not supported by adequate evidence, and these notes are intended to draw attention to certain points which appear to show that the report should be the subject of critical examination and that the conclusions reached in the report ought not to be accepted, at any rate at present.

The report (when drawing conclusions) fails to distinguish between asbestos workers generally on the one hand, and the relatively few asbestos workers who have actually contracted asbestosis on the other. This is the main reason why it would seem that the conclusions reached are unsound. In any event, all references to "asbestos workers" should be to "asbestos textile workers".

1. In the first paragraph of the report on page 1, the first sentences read as follows:-

"Fifty-nine cases of lung cancer have been recorded in persons with asbestosis (Hueper, 1953) since Lynch and Smith (1935) reported the first case. In view of the infrequency of asbestosis, this large number of cases suggests - but does not prove - that lung cancer is an occupational hazard of asbestos workers."

The existence of fifty-nine cases of lung cancer in persons with asbestosis can only suggest that an individual who contracts asbestosis may later suffer from cancer as well.

Is there in fact any evidence that the number of cancer cases in the asbestos industry as a whole is significant? There is nothing in the report to suggest that that is so, and in fact the report itself appears to contain evidence to the contrary.

Did Hueper, Lynch and Smith find any, and if so how many, cases of cancer amongst asbestos workers who had not got asbestosis?

In the case of T.B.A.Co., Table 1. attached to the report shows that during a period of nineteen years there were only three deaths from cancer (not accompanied by asbestosis) amongst the whole of T.B.A.Co's employees. It can hardly therefore be correct to suggest that lung cancer is an occupational hazard for asbestos workers. The evidence in the report only shows that a man who is suffering from asbestosis may also contract lung cancer.

2. In the second paragraph of the report on Page 1, the following statement appears:-

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"The majority of workers (cited by Hueper, 1953) consider that a causal relationship between asbestosis and lung cancer is either proved or is highly probable etc."

It will be noted that in the case of this statement the relationship mentioned is between lung cancer on the one hand and asbestosis on the other; there is no suggestion that there is a relationship between cancer and asbestos workers generally.

3. The statements contained in the paragraphs headed "Autopsy data" at the bottom of page 1 and the top of page 2 of the report are of considerable interest, particularly as they show the substantial advance made in reducing the asbestosis risk since 1931. In particular the statements contained in the last two sentences as set out below require to be carefully noted:-

"All the subjects in whom the two diseases were found together had been employed for at least 9 years under the old conditions and although 11 of the 15 men and women died under 30 years from their first exposure, the association of the two conditions has not yet been found in any person taken into employment during the last 31 years (1923 - 1953). It is, therefore, possible that the reason more cases were not found in the second period, is that reduced exposure to dust has already begun to lessen the incidence of asbestosis."

The statement that the two diseases have not yet been found in any person taken into employment during the last 31 years (from 1923 to 1953) is particularly interesting; this is concrete evidence and appears to be completely inconsistent with the conclusions drawn in the last paragraph of the report on page 5.

Moreover, the final sentence as set out above, which states that the reason that more cancer cases were not found in the second half of the period is that reduced exposure to dust had already begun to lessen the incidence of asbestosis, supports the point made in these notes that the cancer risk usually arises only in the case of those few employees who have contracted asbestosis.

4. Under the heading "Results" the third paragraph on page 4 of the report concludes that the asbestos workers who had worked for 20 or more years in the "Scheduled areas" suffered a notably higher risk from lung cancer than the rest of the population, and the following paragraph says that the size of the risk appears to have been of the order of 10 times that experienced by other men. It would seem however that the report is still drawing conclusions solely from the relatively few cases of men who have contracted asbestosis; and therefore the failure to distinguish between asbestos workers as a whole and asbestos workers who have contracted asbestosis would seem to vitiate the conclusions reached.

Is it not a fact that in the case of employees who have contracted asbestosis and lung cancer it is normally the cancer which occurs after the contraction of asbestosis?

Have we heard of any cases where asbestosis supervened after the contraction of cancer?

5. The last three sentences of the final paragraph under the heading "Results" on page 4 are of considerable interest. They are as follows:-

"It is believed that the great reduction in the extent of the exposure to asbestos dust which has been brought about in the industry since the early thirties has led to a considerable fall in the incidence of asbestosis and will result in its eventual suppression. Whether the specific industrial risk of lung cancer has, in fact, been eliminated can only be shown by future experience. The number of men at risk who have been exposed only to the new conditions is at present too small for any certain conclusions to be drawn from their experience."

As to the first sentence, we know that the incidence of asbestosis has very substantially decreased and we are confidently expecting that that disease will eventually disappear entirely.

As to the second sentence set out above, is there any evidence in the report or elsewhere that there is a "specific industrial risk of lung cancer" among asbestos workers? Does not the true position appear (from the evidence in the report) to be that there is a risk (of which we have been aware for some time) that occasionally in a case of asbestosis (a slowly developing disease) supervening cancer may occur?

As to the third sentence set out above, it seems curious for the report to state that the number of men at risk who have been exposed only to the new conditions is at present too small for any certain conclusions to be drawn. The position appears to be that (as mentioned in the report) among the whole of the employees of T.B.A.Co. first employed since 1923 (31 years ago) not a single case of cancer supervening on asbestosis has occurred; the period is lengthy and the number of men must be substantial, and T.B.A.Co's records will show how many hundreds (if not thousands) of employees are concerned.

If the report realises that valid conclusions can not always be drawn from a small number of examples, is it not inconsistent for the report to draw such wide conclusions as it does from a comparatively small number of asbestosis cases whose experience forms the basis of the report? It applies its conclusions to the industry generally although such conclusions are based only on 15 cases (all first employed, on the old conditions, before 1931) arising during a period of nearly 20 years where an employee suffered both from asbestosis and lung cancer and three cases where employees suffered from lung cancer only.

6. The final paragraph under the heading "Summary" on page 5 of the report states that from the data it can be concluded that lung cancer was a specific industrial hazard of asbestos workers and that the risk among men employed for 20 or more years may have been of the order of 10 times that experienced by the general population. Is that conclusion soundly based, or is the only sound conclusion which can be reached from the evidence in the report to the effect that lung cancer may be contracted by an asbestos worker who has already contracted asbestosis?

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