

Medico-legal aspects of mesothelioma



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The Authors, reviewing the Literature on asbestos-related Malignant Mesothelioma (MM), found that because of its very peculiar characteristics, the causal link between professional asbestos exposure and the development of this tumour is very difficult to define in respect to: diagnosis, causal link and individuation of possible culpable conducts. The evaluation of causal link in different medico-legal areas is studied by different criteria. In civil law the criterion of weak causality is followed to allow compensation for damages. For institutional purposes in INAIL, the definition of causal link is particularly facilitated by the legal presumption of origin. In fact it is sufficient, that asbestos-related lesions are ascertained in individuals who are or were exposed at any time of their professional life to the risk of inhaling asbestos fibres. In criminal law, the current approach of the Supreme Court is to demand evidence of strong causality, with a high logical probability and rational credibility, and beyond reasonable doubt, because criminal liability is personal as established in article 27 of the Italian Constitution. It is worth pointing out that all the levels of evidence indicated above must pass the test of scientific suitability or possibility.

KEY WORDS: Asbestos, INAIL, Mesothelioma, Occupational exposure.

Malignant pleural mesothelioma tends to infiltrate the entire pleural cavity; it is relatively rare having an incidence of 1-2 cases out of 100000 people; the incidence is however much higher among people who have been exposed to asbestos ^{1,2}.

At the present time, asbestos is considered being the most important etiological factor of mesothelioma. Other etiological factors, as previous radiations ³ or tubercular infection ⁴, must be considered for about 20-30% of total cases ⁵.

In 1994 pleural mesothelioma was recognised by the legislator to be a professional disease in its own right, related to the exposure to asbestos, alongside pericardium, peritoneal mesothelioma, lung carcinoma; but the legislator merely acknowledged the case law that had constantly and invariably emerged in practice in this connection ⁶.

Forensic medicine studies occupational diseases through three fundamental components: the causal element, the circumstantial element and the consequential element.

The causal element is represented by the specific pathogen noxa; the circumstantial element refers to the exposure to the occupational risk while carrying out a morbidogenous task; the consequential element is the clinical manifestations of the disease and its disabling or fatal effects ⁷.

Defining the causal link with asbestos is at times difficult because the dose/response correlation is not clear for mesothelioma: indeed it can occur also after exposure to asbestos which was very low in terms of intensity and/or duration. The proven pathogenic capacity of very low doses of asbestos, the current lack of knowledge concerning the level of exposure below which the effect is not observed and the special impact of factors of individual susceptibility make the evaluation of responsibility and of culpable behaviour very complex.

At this point it is necessary to point out the clear-cut distinction between INAIL's evaluation as an occupational disease and the evaluation to be made under criminal law and criminal liability. Since it is impossible to be absolutely sure as to the causal attribution of a well defined pathological presentation to a given occupational activity, it is quite clear that the yardstick to be used in different medico-legal situations should as a consequence be different. In the area of social insurance against occupational diseases (INAIL), considering its specific feature of protecting workers assigned to process-

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es that could prove to be hazardous (albeit not always nor necessarily so), the legislation envisages the presumption of the causal dependence of the disability from the occupational noxa based on the ascertainment of a disease comparable to that induced by that noxa and on the fact that the worker had been exposed to such noxa, without it being necessary to provide concrete proof of a causal link.

With the circular n°35/92, INAIL has taken a clear position on the causal link valuation about diseases which origin is multifactorial, where working activity is among one of the factors. The circular defines the characteristics of the risk, that have to be so relevant that the risk itself assumes a preponderant or at least equal role to that of other out of work factors^{8,9}. It means that the professional moment, even if only concomitant cause, can be sufficient for the acknowledgment of the indemnification, on condition that it is a determining and adapted concomitant cause. Therefore, in all the cases in which the noxa pathogenic professional is antecedent and not necessary, an insurance protection cannot be taken into consideration¹⁰.

These evaluation criteria are valid and accepted for the purposes of protection for insured occupational diseases, but obviously they cannot be dogmatically accepted in the domain of criminal law, where the search for the causal link must comply with much more rigorous evidence criteria, since a criminal sentence cannot be issued unless there is absolutely positive evidence.

In the area of criminal law, it is absolutely indispensable to demonstrate that there is a causal link, because in order for a fact to be considered a crime it must invariably be based on an unquestionable and proven causal link; the fact must be evaluated in terms of certainty and not merely in terms of lesser or greater probability; between the fact and the violation of the law which, in the case of personal injury must consist in the fact of having caused such injury concretely, as a direct cause of a given injury-causing action. The Court of Cassation has often specified that the causal link in technology-related diseases may be assessed in terms of "reasonable certainty" whenever there is a "high degree of probability" and of "qualified probabilities"¹¹.

In determining whether a disease is occupational or not in the area of criminal law, the current approach of the Supreme Court is to demand evidence of strong causality, i.e. that the causal link with exposure to the harmful action of an occupational agent be proven, for each individual case, with certainty but also with a high logical probability and rational credibility, and beyond reasonable doubt. In the recent ruling of the Criminal Court of Cassation n° 19777/2005 of 25.11.2004, this was expressed as "current certainty"^{12,13,14,15}.

Therefore, whereas the clinician is not interested in knowing how the patient came into contact with the morbidogenic factor; Social insurance institutions, on the other hand, are interested only in the circumstances and

in the presumptions that can be made; under criminal law this is of prominent interest and needs to be rigorously ascertained. Consequently the same disease can be viewed from different angles with the conclusions on the same case being extremely different in the legal sphere and with the possibility that an identical pathological presentation may find diametrically opposed judicial solutions: for instance, the same clinically ascertained asbestosis may have full recognition as an occupational disease but be absolutely irrelevant from the criminal viewpoint if a certain or highly probable causal relationship has not been identified.

This is so also on the basis of the two fundamental principles that are to guide the rulings for civil and criminal lawsuits: in the former the prevailing principle must be "in dubio pro reo"; while in the latter it must be "in dubio pro misero". In other terms, in the first case there should be extreme rigour in presenting the evidence since the principle that prevails is the principle of "favour rei", which means that criminal liability cannot (or at least, should not) be attributed to an individual, and hence he should not be condemned, unless there is absolute certainty that a criminal fact exists and that the person responsible can be identified with the same degree of certainty; instead, in the area of civil law, the evaluation rigour should go to the benefit of the injured party, and so even in the presence of a mere probability he can claim compensation for damages.

In Civil Law, therefore, the criterion of a weak causality seems to be emerging which allows for a probabilistic ascertainment that is not very stringent in accordance with the principle of an event being more probable than not.

As regards compulsory insurance with regard to diseases that are not on the list, recourse is made to a weak causality given the institutional purposes of INAIL; and always in relation to compulsory insurance but with regard to the diseases that are on the list, the inspection is made easier by the criterion of legal presumption of origin, provided there is evidence of exposure to the risk and that the techno-pathologic agent is such as to be able to produce the lesions involved, even though the disease has characteristics that are not nosographically typical. It is worth pointing out that all the levels of evidence indicated above must pass the test of scientific suitability or possibility.

On the basis of these principles, very broad criteria must be adopted in acknowledging the causal link where compensation for damages is involved both as regards insurance companies and civil liability, but such causal nexus must comply with extremely rigorous criteria where criminal law is involved and it is to be peremptorily rejected when it is scientifically impossible to irrefutably assert that there is a causal nexus between a human behaviour, which constitutes the main basis for an offence, and the ensuing embodiment of the offence, namely the occupational disease which is merely a hypothesis.

Riassunto

Gli Autori, procedendo ad una disamina della Letteratura in merito al mesotelioma maligno (MM) da esposizione ad asbesto, sottolineano come questa neoplasia presenti aspetti molto particolari che rendono difficile l'individuazione del nesso causale con l'amianto e impossibile la definizione di certezza di origine professionale della malattia. Ciò comporta l'adozione di criteri valutativi diversi da quelli utilizzati per altre patologie nella diagnosi, nella definizione della causalità e nell'individuazione di eventuali comportamenti colposi rilevanti. La valutazione del nesso di causalità materiale in ambiti medico-legali differenti, quindi, viene effettuata con metri valutativi diversi: in ambito civile si sta affermando il criterio della *causalità debole*, stante l'interesse tutelato meramente risarcitorio; in sede di assicurazione obbligatoria, per le finalità istituzionali dell'INAIL, la definizione del nesso è particolarmente facilitata dal criterio di presunzione legale di origine, purché sia constatabile un ben qualificato quadro clinico patologico e la concreta esposizione alla noxa patogena durante una determinata attività lavorativa; in sede penale, l'orientamento della Suprema Corte è quello di richiedere una *causalità forte*, di certezza oltre ogni ragionevole dubbio, con necessità di rigoroso accertamento, poiché, secondo quanto disposto dall'art. 27 della Costituzione, la responsabilità penale è personale. In ogni caso, tuttavia, il livello probatorio deve superare la soglia pregiudiziale della idoneità scientifica.

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