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The Rosenborg case and the role of doctors in tortious liability cases

HEALTH AND LAW

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Haematological cancer in former students and employees of the Norwegian University of Science and Technology (NTNU) resulted in two cases being brought to court. The survivors claimed damages from the state as employer. The Court of Appeal did not agree that there was a causal relationship between the working environment and the illnesses, basing its decision on statements from the medical experts. However, the court had misunderstood the medical experts, who did not appear to realise how critical their choice of words is to the outcome of this type of case.

In the summer of 1997, a professor at NTNU warned the university's management that four former postgraduate students of botany had been diagnosed with haematological cancer. He feared that this was linked to the working environment. This was the beginning of the "Rosenborg case". In time, more cases of haematological cancer among former students and employees came to light. Attention was soon directed towards the laboratories at Rosenborg and their condition in the 1970s and 1980s. Had there been a cancer risk in the working environment?

In the first eight cases that came to light, the state settled with the patients or their survivors, and paid damages. However, a government-appointed commission (the Ersdal Commission) believed that this gave the lamentable impression that the causal relationship had been accepted (1). The state subsequently rejected two new claims from the survivors of two former

students. In order to be awarded damages, they needed to convince the courts that there was a causal relationship between the working environment and the blood cancers non-Hodgkin lymphoma and chronic myelogenous leukaemia.

Oslo District Court ruled in favour of the survivors in 2011, but Borgarting Court of Appeal ruled against them in January 2013. This article is based on a reading of the judgment of the Court of Appeal (2).

What had the students been exposed to?

In order to substantiate the causal relationship, it was important to know if the students had been exposed to carcinogenic agents in the working environment in the 1970s and 1980s, and in what concentrations. Specific laboratories were the main focus of suspicion. The judgment reproduces an excerpt of a letter from students and employees to the safety representative in June 1978, where they described the working conditions at these laboratories as intolerable (2) A workplace inspection six months later reported improper storage of chemicals, that there was no toxic substances storage cabinet and that the fume cupboards were defective. There was little other information about the working conditions.

The judgment quoted the report from a group of experts appointed in the Rosenborg case (the Dybing Commission). "There are grounds to believe that the Rosenborg laboratories used a dozen carcinogenic substances. However, so much time has passed that it is not possible to be more accurate regarding the exposure in terms of concentrations and duration" (2).

The judgment repeats the criticism levelled at NTNU by the Ersdal Commission regarding inadequate investigation after it learned of the cases of cancer: "NTNU's inadequate investigation of the exposure situation and level at the Rosenborg laboratories has resulted in us, ten years after legal action was brought in the Rosenborg case, not knowing more about what impact the working environment may have had on the students and the employees. NTNU's failing in this area has also reduced the chances of establishing the truth, as the laboratories have now been demolished" (2)

The solvent benzene was the possible cause of cancer that received the most attention during the hearings. A professor and former laboratory head (P) at the Rosenborg laboratories was quoted as follows: "It was not common knowledge in the 1970s that benzene was a hazardous substance, and P could not say that work was always done in a ventilated area" (2) If P's recollection is correct, this ignorance is shocking. In the 1970s, benzene had been known as a bone marrow toxin for almost one hundred years. The following was written in bold text in the 1975 edition of a textbook on occupational medicine: "Where no substitute can be found, benzene should be used only under the best conditions, and its characteristic odour in a workshop should be regarded as a danger signal. In other words, the safe concentration of benzene in a factory or workshop is ZERO parts per million" (3). A Norwegian handbook for workers

dated the same year warns of the risk of damage to bone marrow and leukaemia, and particularly warns against skin contact, because benzene is absorbed through the skin (4).

The fact that the university had not clarified the risk in the working environment and its lack of knowledge about benzene should be key factors in a case regarding tortious liability like this one. The Norwegian Institute of Technology/NTNU was the country's most important educational institution for chemical engineers and future industrial managers, and had the resources to be familiar with the legislation on protection of workers and to comply with it. The Court of Appeal does not appear to have given any weight to the fact that employers were under an obligation pursuant to the Working Environment Act of the 1970s and 1980s, just as they are today, to monitor employees' exposure to chemical and other risks to health.

Formaldehyde was another possible cause of cancer. The Court of Appeal concluded that there was no "preponderance of the evidence" that exposure to formaldehyde provided an increased risk of the type of cancer in question (chronic myelogenous leukaemia). However, it also stated that the expert witnesses had not shed much light on the matter (2) The Court of Appeal was of the opinion that the survivors had to shoulder the risk for the lack of illumination of the matter. They had not concretised the question of formaldehyde until during the appeal, in other words not in the court of first instance. Assigning responsibility in this way may be legally correct, but to the layman it seems unreasonable that it is the survivors who must identify the causes of cancer, when it is the lack of knowledge on the part of the employer that makes this necessary and also very difficult.

If the expert witnesses had been allowed to give evidence about formaldehyde, they might have been able to testify that the International Agency for Research on Cancer (IARC) has concluded that exposure leads to an increased risk of leukaemia, especially myelogenous leukaemia (5, 6).

Medicine and law – possible causes versus most probable causes

The main question for the Court of Appeal was whether there was a *causal relationship* between the exposure to chemicals and radioactive radiation at the Rosenborg laboratories and the cancers the two people had been diagnosed with. The lawyers consulted with the medical experts.

The medical profession is trained to look for causes of significance to treatment or prevention. All factors that may affect the incidence of disease in a population can be of interest, for example, even though the causal relationship is uncertain and the mechanism is unknown. Such factors are *possible* causes of disease, and that is enough for them to become relevant.

People in the medical profession have no scientific method to identify the Cause with a capital C in individual cases. This is why things can easily go wrong when they help lawyers; because lawyers are looking for precisely the Cause in the individual case. Their role in society is to assign guilt and

responsibility in line with a general sense of justice and the principles of due process. They have little interest in the medical profession's *possible* causes. They want the *main cause*, the *necessary* cause or the *most probable* cause. They believe that people in the medical profession can provide an answer with a scientific basis. However, what they get is only a personal opinion on which of the presumed possible causes was "most important" in the individual case, an opinion that will depend on the person's personal and professional interests (7).

The Rosenborg case shares many similarities to other cases concerning occupational illness. Lawyers at the Norwegian Labour and Welfare Administration (NAV) and insurance companies also usually ask their medical experts about the significance of working conditions in relation to a person's illness. Doctors look at the *possible* causes they are familiar with in the working environment and outside it, and often also say how "probable" they believe the relationship is. In other words, how sure they are (7). They do not always understand that their choice of words may be critical to the outcome of a tortious liability case and may feel misunderstood when the judgment is rendered (8).

In tortious liability cases, doctors should restrict themselves to talking about possible causes of illness. It is difficult enough, and their conclusions are still subjective, but they are based on the person's expertise. It is when the medical professional begins to quantify the "probability" of a causal relationship, and even weigh different causes against each other that they go too far (7). In practice, it is often a matter of lifestyle versus working conditions or, as in the Rosenborg case, chance (unknown causes) versus working conditions.

This puts people in the medical profession in the lawyer's territory: assignment of responsibility and guilt. For example, a statement from a medical expert that a causal relationship between working environment exposure and disease is possible but "improbable" will easily relieve an employer of liability. Conversely, if they say "highly probable", this may lead to employers being assigned responsibility. Doctors do not have a social mandate to help lawyers with such discretionary assignment of responsibility.

How strong is the specialist's discretion?

In the Rosenborg case, several experts were presented with the same two cases of cancer and were asked whether they could have been caused by the working environment, in other words whether it was "occupational cancer". British researchers have studied the reliability of the diagnosis occupational asthma, another "occupational illness" (9). The findings are relevant to the Rosenborg case.

The researchers contacted over one hundred practitioners of occupational medicine and pulmonary medicine. Each one was sent 4 out of 19 medical histories about patients with possible occupational asthma. All of the medical

histories were thus assessed by about 20 different doctors. They were also asked to assign a score of 0 – 100 for the probability of the diagnosis occupational asthma.

Most of them answered that they had not received enough information. They nevertheless formed an opinion and assigned a score. The average score for each patient was often about 50; this means that affirmative and doubting answers evened each other out. However, all of the 19 patient histories were scored using most of the scale. In other words, the specialists' assessment of the individual cases varied greatly.

The doctors were given the opportunity to reassess two of the medical histories after receiving additional information about the patients. More of them then felt certain (score near 0 or 100) and a far larger share set the diagnosis of occupational asthma – 64% in the second round, compared to 16% in the first.

The study shows what can happen when highly-qualified doctors are asked to speak on a matter regarding occupational illness. If the information is incomplete, it is difficult to form an opinion, perhaps especially to conclude positively that there is an occupational illness. A little more information makes it easier to conclude in the affirmative, and the doctors feel more certain (score near 0 or 100) about both affirmative and negative conclusions.

The experts in the Rosenborg case had little information about the patients' exposure. Just like in the British study, they were therefore uncertain and cautious about concluding affirmatively that it was "occupational cancer" (causal relationship). They did not assign a direct score, but occasionally estimated the "probability" of a causal relationship as great or small. One went so far as to say that the "probability" of a concrete relationship was less than 1/10. Such "probability" estimates are often assigned great weight by lawyers. They probably confuse it with statistical probability, when in reality it is only a matter of how certain the expert is about his/her conclusion.

When the Court of Appeal misunderstands the experts

The Court of Appeal finally arrived at the same conclusion for both cases of cancer. "Following an overall assessment, the Court of Appeal does not find that it is probable that exposure to hazardous substances at Rosenborg was the cause of NN's cancer. The Court of Appeal places considerable weight on the fact that the epidemiological investigations did not provide evidence that the risk of haematological cancer was greater for the group of students in question than expected in the general population" (2).

The epidemiological investigations that were mentioned primarily consisted of a study of the risk of haematological cancer among students, doctoral candidates and employees affiliated with the laboratories at Rosenborg. The investigation was initiated by the National Institute of Occupational Health and conducted in collaboration with the Department of Occupational Medicine at St. Olavs Hospital in Trondheim and the Cancer Registry of Norway (10). The

purpose was "to make a contribution towards illuminating matters regarding the incidence of haematological cancer at the laboratories at Rosenborg" (2) The study was small and "negative" or "inconclusive".

The report from the Dybing Commission, which was quoted by the Court of Appeal, was therefore clear: "Among those who had only studied there ... there was no certain increased risk [of haematological cancer]. (...) There was no increased risk of haematological cancer associated with the discipline of biology, including botany" (2, 11). They should have specified that the investigation did not say anything about the cause of the two cases addressed in the legal action.

The Court of Appeal obviously thought that the investigation found that there was no causal relationship in the two cases, and practically made information about the exposure superfluous: "The fact that the circumstances at Rosenborg were not clarified in detail is thus of little importance in the overall assessment" (2) There are other places in the judgment where there are signs that the Court of Appeal perceived the medical experts' statements of "lack of evidence of risk" as synonymous with "documented absence of risk" (2)

The Court of Appeal referred to the "Second Contraceptive Pill Judgment" of 1992, a standard reference for lawyers in cases regarding tortious liability for illness (12). A majority of three concluded there that there was a causal relationship between the use of contraceptive pills and cerebral thrombosis in the claimant, and that the manufacturer had tortious liability. However, the judgment of the Court of Appeal in the Rosenborg case shows that it overlooked the important warning in the contraceptive pill judgment regarding misinterpretation of epidemiological studies: "As several of the experts have pointed out, direct inferences cannot be drawn from statistical material to each concrete incidence of illness".

The judgment is based on precisely one such erroneous inference: from the average risk of haematological cancer in a group of students to the two individual cases. Should medical experts be held responsible for ensuring that they are understood?

The case has been appealed, and the Supreme Court will review the same questions as the Court of Appeal. Key exposure information is still missing, and the medical experts will therefore remain reluctant to provide affirmative conclusions regarding the causal relationship. It will be a problem if this results in the conclusion of the Court of Appeal standing. It would actually mean that employers would profit from neglecting the statutory requirements to monitor health risks in the working environment if they want to avoid future tortious liability. This is hardly in line with the general sense of justice.

Addendum

The Supreme Court has rejected the appeal.

This article was translated in 2017. The author is no longer senior consultant at the Norwegian Labour Inspection Authority in Oslo. She can be reached at: ebba-we@online.no.

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