UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

ANNE ANDERSON, et al., Plaintiffs, v. CRYOVAC, INC., et al., Defendants.	CIVIL ACTION No. 82-1672-S

MEMORANDUM OF W. R. GRACE & CO.
IN SUPPORT OF ITS MOTION FOR
SUMMARY JUDGMENT

W. R. Grace & Co. ("Grace") doing business as Cryovac Division submits this Memorandum in support of its motion for entry of summary judgment dismissing plaintiffs' claims that they or their decedents contracted leukemia, or face an increased risk of leukemia, as a result of being exposed to certain chemicals.

Grace is entitled to summary judgment on these claims because, as shown herein, plaintiffs cannot make out a prima facie case that a causal nexus exists between exposure to the subject chemicals and leukemia. As appears from the affidavits of James H. Jandl, M.D. and William C. Moloney, M.D., two pre-eminent experts in the field of leukemogenesis, there exists today no medically-accepted evidence which would support an expert opinion on behalf of plaintiffs that it is more likely than not that exposure to any of the subject chemicals caused or promoted plaintiffs' leukemia. Plaintiffs' claims must therefore be dismissed as "wholly lacking in evidential support," on the basis of Sevigny's Case, 337 Mass. 747 (1958).

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In Sevigny's Case, the Supreme Judicial Court reversed a workmen's compensation award on a claim that a bacterial infection caused the employee's leukemia. After noting that, in cases like this, "proof of causation between the injury and the ensuing death must rest upon expert medical testimony," 337 Mass. at 749, the Court held that plaintiff's expert opinion regarding causation must be disregarded because medical writings on the causes of leukemia "indicate that the matter is still an unresolved medical problem":

> The evidence taken at its best ... does not go beyond showing a possible cause. It comes down to this: There is some basis for the hypothesis that staphylococcus infection is a cause of leukemia, but so far it is only an unproved hypothesis, which the ... expert thinks may sometime be proved. This is not proof of cause. Cases are to be distinguished where the expert opinion is that a medically accepted cause was operative to relate the accident to the injury.

337 Mass. at 753.

As the affidavits filed herewith demonstrate, the state of medical knowledge regarding a possible causal relation between exposure to the subject chemicals and leukemia is, at best, no better today than it was in 1958 regarding bacterial infections and leukemia. Plaintiffs will be unable to provide admissible, competent expert medical opinion testimony to make out a prima facie case, and their claims must therefore be dismissed under Rule 56.

> [A]n opinion given by an expert will be disregarded where it amounts to no more than mere speculation or a guess from subordinate facts that do not give adequate support to the conclusion reached.

337 Mass. at 751. See Nadler v. BayBank Merrimack Valley, N.A., C.A. No. 83-1621 slip op. at 6 (1st Cir. May 7, 1984) (affirming summary judgment in favor of defendant where plaintiff's affidavit and deposition testimony were not the type of competent and admissible expert testimony necessary to create a triable issue of fact).

Background

This is a tort action commenced in May, 1982 and amended in February, 1983, in which several plaintiffs who are members of eight families now or formerly residing in East Woburn, Massachusetts, seek damages for death or illness allegedly caused by their exposure to certain chemical substances. Although this action was originally commenced in Middlesex Superior Court, it was removed to Federal District Court on June 15, 1982 pursuant to this Court's diversity jurisdiction.

The Second Amended Complaint sets forth five causes of action, based on negligence, wrongful death, conscious pain and suffering, nuisance and abnormally dangerous activities. Plaintiffs allege that they were exposed to certain chemical substances as a result of the presence of those substances in two municipal wells, wells G and H, that allegedly supplied drinking water to their homes in East Woburn between 1964 and 1979. Plaintiffs contend that the contamination of wells G and H can ultimately be traced to the disposal of various chemical substances by several companies, including defendant Grace, which operated a machine shop in Woburn, defendant Beatrice Foods, Inc, which operated a tannery in Woburn, and other companies not yet

named. According to plaintiffs, ingesting the contaminated drinking water from wells G and H caused one person in each of the plaintiff families to contract leukemia, and it caused the remaining plaintiffs to suffer an increased risk of illness.

On November 11, 1982 Grace moved to strike the Amended Complaint and to dismiss the action pursuant to Rule 11 of the Federal Rules of Civil Procedure. That motion was based, in part, on a newspaper report of an admission by plaintiffs' technical consultant that there was no medically accepted causal link between the subject chemicals and leukemia. On January 24, 1983, the Court denied Grace's Rule 11 motion. The Court indicated that, while plaintiffs did not have "conclusive evidence" of a causal link between the subject chemicals and leukemia, it was sufficient for Rule 11 purposes for plaintiffs' claims to be brought into court, at least initially, solely on the basis of certain "circumstantial evidence" which had not been "fully developed" at the time the complaint was filed.

One consequence of the Court's ruling on Grace's Rule 11 motion is that, at most, only three chemical substances are now at issue in the case against Grace. In this Memorandum, we call those the "subject chemicals": trichloroethylene ("TCE"), tetrachloroethylene (commonly known as perchloroethylene, or "PCE") and 1, 2 trans-dichloroethylene. Only TCE is alleged by name against Grace in the Second Amended Complaint, ¶¶49, 50. However, all three of the subject chemicals were found in two EPA test wells (W21 and W22) located on a line between the Grace facility and the contaminated municipal wells G and H. See Supplemental Affidavit

of William J. Cheeseman, January 10, 1983, Exhibit A. On the basis of the March 1982 EPA final report showing the presence of the subject chemicals in the test wells, the Court ruled that plaintiffs did have a good faith basis for alleging that Grace was the source of the subject chemicals. By the same token, of course, it follows that plaintiffs may not, without more information, allege that Grace was the source of any of the other chemicals found in the municipal drinking water wells and named in the Complaint.

A second consequence of the Court's ruling on Grace's Rule 11 motion is that -- while plaintiffs were permitted to use animal experiments as a good faith basis for alleging that at least one of the subject chemicals causes human leukemia -- plaintiffs must now prove that each of the subject chemicals is causally linked to human leukemia, using admissible and competent expert opinion evidence.

In discovery conducted to date, Grace has sought through interrogatories to ascertain from plaintiffs the basis of their allegation that exposure to the subject chemicals is causally related to leukemia. In their supplemental responses to Interrogatory No. 21, plaintiffs on April 29, 1983 merely referred Grace to the very limited information which had already been filed in support of their opposition to the Rule 11 motion -- the same information which the Court suggested was neither conclusive nor fully developed. Plaintiffs have since conducted no discovery themselves relating to the question of causation, nor

have they provided information in response to Grace's Interrogatory No. 40, requesting identification of their expert witnesses.

The time has now come, more than two years after the commencement of this action, for the plaintiffs to show the court what information they have, if any, which would justify putting Grace to the expense of a trial of these claims. As discussed below, it is clear that plaintiffs will not be able to provide the court with evidence, admissible and competent under the Rules of Evidence as required by Rule 56(e), showing a genuine issue as to any material fact regarding the existence of a causal connection between the subject chemicals and leukemia. Summary judgment should therefore be entered dismissing the claims.

Argument

I. PLAINTIFFS CANNOT ESTABLISH A GENUINE ISSUE OF FACT THAT EXPOSURE TO THE SUBJECT CHEMICALS IS CAUSALLY RELATED TO LEUKEMIA.

Even assuming for the purposes of this motion that it could be shown that use of the subject chemicals by Grace affected the drinking water supplied to plaintiffs from wells G and H at relevant times, nevertheless plaintiffs' claims based upon those chemical substances must fail. As a matter of law, plaintiffs cannot establish the necessary causal connection between exposure to the subject chemicals and leukemia.

Irrespective of whether plaintiffs' claims are based on a negligence or on a nuisance theory, proof of causation is required. Swartz v. General Motors Corp., 375 Mass. 628, 633 (1978) (expert opinion of causal link in negligence case

disregarded on motion for directed verdict because based on speculation); Alholm v. Wareham, 371 Mass. 621, 625-28 (1976) (directed verdict sustained in nuisance case where evidence on causation issue left jury to speculate or conjecture). It is thus plaintiffs' burden to prove not merely that Grace was responsible for the presence of the chemical agents in wells G and H, but also that exposure to those chemicals was the legal cause of plaintiffs' harm -- that is, that exposure to the subject chemicals is causally related to leukemia and the increased risk of leukemia.*

The standard for proof of causation is well established under Massachusetts law. That standard requires a plaintiff to show by a preponderance of the evidence that the harm he suffered was more probably caused by the defendant's acts than by the acts of others, such that the trier of fact actually believes in the truth of the particular causal relationship alleged by the plaintiff:

> [Causation] is proved by a preponderance of the evidence if it is made to appear more likely or probable in the sense that actual belief in its truth, derived from the evidence, exists in the minds of the tribunal. . . .

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* To the extent that the harm allegedly suffered by certain individual plaintiffs is limited to emotional harm resulting from the increased risk of contracting leukemia, the claims of those plaintiffs are foreclosed by Payton v. Abbott Labs, 386 Mass. 540, 544-556, 574 (1982). There, the Supreme Judicial Court squarely stated that mere fear of illness without proof of present illness will not support an action for negligence. Of course in the instant case, unlike the Abbott Labs case, plaintiffs' inability to show a causal relation also precludes proof of increased risk of illness, in any event. See Plummer v. Abbott Laboratories, 568 F.Supp. 920, 922 (D.R.I. 1983) (granting summary judgment in favor of defendants where plaintiffs' harm consisted only of alleged increased risk of cancer).

ing's Case, 352 Mass. 488, 492 (1967) (expert medical opinion hat accident promoted or accelerated plaintiff's cancer disre- arded where, if "given maximum weight, [it] expressed no more han a mathematical likelihood that the employee's death was causally related to his accident"), quoting Sargent v. Massachusetts Accident Co., 307 Mass. 246, 250 (1940). Accord, e.g., Haas v. United States, 492 F.Supp. 744, 763 (D. Mass 1980) (granting summary judgment to defendant where plaintiff failed to show genuine factual issue that his injury "more probably than not would not have occurred in the absence of negligence"); Maher v. General Motors Corp. 370 Mass. 231, 234 (1976)("[w]hen the precise cause . . . may be as reasonably attributed to a condition for which no liability attaches as to one for which it does, then a verdict should be directed against the plaintiff"); Mullins v. Pine Manor College, 389 Mass. 47, 58 (1983)(plaintiff must show there was greater likelihood or probability that the harm complained of was due to causes for which the defendant was responsible than from any other cause"); Restatement (Second) of Torts, §433B, Comment b (1965).

Under this standard, which requires the finder of fact actually o believe in the truth of plaintiff's proffered causal nexus, evidence of a mere mathematical possibility that a particular injury or illness may have been caused by the defendant's acts is not, as a matter of law, sufficient: "It . . . is not enough that mathematically the chances somewhat favor a proposition. . . ." King's Case, supra, 352 Mass. at 491-92; accord, Sevigny's Case, supra, 337 Mass. at 753 (evidence of possible causal relationship

the probability of such a causal relationship would amount to nothing more than rank speculation and conjecture. It is clear beyond peradventure both in Massachusetts and in other jurisdictions that expert testimony based only on conjecture is without probative value and cannot satisfy a plaintiff's burden of showing causation:

> "When the precise cause is left to conjecture and may be as reasonably attributed to a condition for which no liability attaches as to one for which it does, then a directed verdict should be entered. . . ." This holds true, nothwithstanding that an expert has testified that the cause of the accident was defendant's negligence, if it is demonstrated that the opinion is based on speculation alone.

Currie v. Lee Equipment Corp. 362 Mass. 765, 768 (1973) (emphasis added); accord, Lynch v. Egbert, supra, 360 Mass. at 92 (affirming entry of directed verdict in medical malpractice case where testimony of plaintiff's expert amounted to "no more than mere speculation or a guess from subordinate facts that do not give adequate support to the conclusion reached"); Kennedy v. U-Haul Co., Inc. 360 Mass 71, 73-74 (1971) ("[a] mere guess or conjecture by an expert witness in the form of a conclusion ... has no evidential value"); cf. Girard v. Crawford, 13 Mass. App. 916 (1982)(rescript)(directed verdict standard satisfied where expert opinion based on nothing firmer than speculation).

Significantly, the leading case in Massachusetts, Sevigny's Case, supra, which establishes the principle that expert opinion must be disregarded when based on speculation, involved expert testimony as to the causes of leukemia. Sevigny was a workmen's compensation action in which the employee had cut his index finger

while at work and was shortly thereafter treated for a staphylococcus infection of that wound. Approximately two months later, the employee was diagnosed as having acute leukemia, from which he subsequently died. The Industrial Accident Board affirmed the finding of a single member that the employee's death from leukemia was the result of his work-related staphylococcus infection. This finding was based on expert testimony that the employee's leukemia was likely caused by the infection.

The Supreme Judicial Court reversed the decision of the Industrial Accident Board on the ground that the expert opinion was not supported by the medical literature. That literature indicated only a possible causal link between staphylococcus infection and acute leukemia. According to the Court, that was not a sufficient basis for the expert's opinion:

> It comes down to this: There is some basis for the hypothesis that staphylococcus infection is a cause of leukemia, but so far it is only an unproved hypothesis, which the ... expert thinks may sometime be proved. This is not proof of cause.

337 Mass. at 753 (emphasis added). The court went on to hold that the employee's dependents "had failed to sustain the burden of proof in attempting to prove the cause of the disease, where the cause is admittedly unknown. . . ." Id. at 754. Accord, King's Case, supra, 352 Mass. at 491 (expert testimony that employee's work-related injury was causally connected to his lung cancer held to be without probative value since based on conjecture).*

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* While expert testimony on behalf of plaintiffs here asserting a causal link between exposure to the subject chemicals

(footnote continued)

Courts in other juridsictions have likewise recognized the rule that expert opinion of causation of a disease which is unsupported by the medical literature is without probative value. For example, in Hasler v. United States, 718 F.2d 202 (6th Cir. 1983), the Sixth Circuit ruled that it was clear error for the court below to credit expert testimony that plaintiff had developed juvenile rheumatoid arthritis as a result of her inoculation with swine flu vaccine. In reversing the decision of the district court, the Sixth Circuit emphasized the absence of any medically-accepted evidence supporting the expert witness' testimony:

> Many of the experts testified that there was no medical literature or evidence to support the plaintiff's theory of causation. The record shows only two facts with certainty: (1) a swine flu inoculation protects an individual from flu by causing an immunological reaction; and (2) rheumatoid arthritis may be considered an auto-immune disorder. The plaintiff has failed to present any theory linking these facts to show her immunological reaction to swine flu caused the auto-immune disease from which she suffers.

(footnote continued)

and leukemia would not be sufficient to carry plaintiffs' burden of proof of causation in light of the state of medical knowledge on leukemogenesis, such testimony is probably not even admissible. See, e.g., Flaherty's Case, 316 Mass. 719, 723 (1944) (excluding medical expert's testimony that plaintiff's injury was caused by exposure to chemical agent because testimony was based on animal studies in which the extent and nature of exposure of animals to that chemical agent was different from plaintiff's exposure); Schaeffer v. General Motors Corp., 372 Mass. 171, 178 (1977) ("[j]udicial acceptance of a scientific theory or instrument can occur only when it follows a general acceptance by the community of scientists involved"); Lima v. United States, 708 F.2d 502, 508 (10th Cir. 1983) (affirming ruling of court below which struck expert testimony which was not based on type of data reasonably relied on by experts in that field).

718 F.2d at 205-06. See, e.g., Lima v. United States, 708 F.2d 502, 508 (10th Cir. 1983) (court below did not err in striking expert testimony that swine flu vaccine caused plaintiff's injury where that testimony was not based on type of data reasonably relied on by experts in that field); Zech v. United States, 720 F.2d 534 (8th Cir. 1983)(per curiam) (affirming decision below finding no causal relation between swine flu vaccine and plaintiff's stroke); Padgett v. United States, 553 F.Supp. 794, 804 (W.D. Tex. 1982) (plaintiffs failed to sustain burden of showing causation where expert testimony was speculative because not supported by the medical literature); Montoya v. United States, 533 F.Supp. 586, 592 (D.Colo. 1981) (expert testimony that swine flu vaccine caused plaintiff's injury held to be mere speculation since unsupported by medically-accepted research):

Despite the passage of over twenty-five years since the Sevigny Court found the causes of leukemia to be unknown, it is still unfortunately true that the state of medical knowledge has not yet progressed to the point where the actual mechanism of leukemogenesis, the process by which leukemia occurs in living organisms, is fully and reliably understood. Jandl Aff., ¶8 (cause of 98% of leukemia cases unknown). Indeed, there is no evidence whatsoever in the medical literature that even suggests that any of the subject chemicals is leukemogenic in humans. As in Sevigny, any expert opinion offered by plaintiffs here to the effect that exposure to the subject chemicals causes or probably causes leukemia would not be sufficient proof of causation, for such opinion would not be based on medically-accepted evidence,

but on unsupported speculation. See, e.g., Clark v. State Workmen's Compensation Com'r, 155 W.Va. 726, 187 S.E.2d 213 (1972) (reversing award of workmen's compensation benefits to widow of employee who died from leukemia where expert testimony of possible causal relationship between employee's exposure to toxic chemicals and leukemia was based on speculation.)

II. SUMMARY JUDGMENT IS APPROPRIATE BECAUSE CONJECTURE IS NOT SUFFICIENT TO RAISE A GENUINE ISSUE OF FACT CONCERNING CAUSATION.

Where, as here, one of the requisite elements of plaintiffs' prima facie case rests solely on conjecture and speculation, summary judgment is appropriate:

> While [plaintiff] is entitled [on a motion for summary judgment] to all favorable inferences, he is not entitled "to build a case on the gossamer threads of whimsy, speculation, and conjecture. . . ." [Plaintiff] has done nothing more than make conclusory allegations, unsupported by factual data, and thus has not demonstrated . . . [the existence of] a triable issue of fact.

Emery v. Merrimack Valley Wood Products, Inc., 701 F.2d 985, 992 (1st Cir. 1983), quoting Monganaro v. Deleval Separator Co., 309 F.2d 389, 393 (1st Cir. 1962); accord, Nadler v. BayBank Merrimack Valley, N.A., C.A. No. 83-1621, slip op. at 9 (1st Cir. May 7, 1984) (affirming summary judgment in favor of defendant where plaintiff's affidavit and deposition failed to raise factual issue of reasonableness of liquidation sale by admissible and competent expert testimony).

Especially instructive here is the allowance of defendant's motion for summary judgment in Haas v. United States, 492 F.Supp. 755 (D. Mass. 1980). There, summary judgment was granted against

the plaintiff in a medical malpractice action. Although plaintiff in Haas alleged that his undisputed brain damage was caused by an anoxic eposide, i.e., deprivation of oxygen, during surgery, defendant presented expert medical opinion in affidavit form to the effect that "there is no medical explanation which would square the alleged anoxic episode with [plaintiff's] normal vital signs during [the surgery]...." Id. at 758. The court noted that "issues of negligence are ordinarily issues of fact," but went on to find summary judgment appropriate because plaintiff had failed to show a triable factual issue contradicting defendant's expert medical opinion affidavits that the injury was not caused by an anoxic episode. Id. at 760, 763. Accord, Neely v. St. Paul Fire and Marine Ins. Co., 584 F.2d 341 (9th Cir. 1978) (affirming grant of summary judgment where plaintiff's affidavits did not provide sufficient evidence from which a fairminded juror could logically infer that one explanation of the cause of injury was more likely true than another); Jones v. Wike, 654 F.2d 1129 (5th Cir. 1981) (affirming grant of summary judgment where medical malpractice plaintiff failed to file affidavits of expert medical testimony to support his burden of proof on issue of due care); Kerr v. Koemm, 557 F.Supp. 283, 285-86 (S.D.N.Y. 1983) (granting summary judgment against third-party plaintiffs where third party plaintiffs could not support by expert affidavit their theory that defective product design caused plaintiff's injury); see Crum v. Continential Oil Company, 471 F.2d 784, 785 (5th Cir. 1973) (affirming grant of summary judgment to defendant where plaintiff could not show genuine factual dispute that his injuries were

caused by negligent acts of defendant); Silow v. Truxmore Industries, Inc., 449 F.Supp. 997, 1000 (D. Del. 1978) (summary judgment appropriate in negligence action where court would have to grant defendant's motion for a directed verdict); Dale Henton, Inc. v. Triangle Publications, Inc., 27 FRD 468, 474 (S.D.N.Y. 1961) (summary judgment motion should be viewed from position of trial judge faced with motion for a directed verdict at completion of plaintiff's case).

The assertion by plaintiffs here that exposure to the subject chemicals causes leukemia is nothing more than conjecture unsupported by the medical literature. Such conjecture is patently insufficient either to carry plaintiff's burden of proving probable causation or to establish a triable issue of fact.

Conclusion

For the above-stated reasons, defendant W.R. Grace respectfully requests that this Court grant the motion for summary judgment and dismiss plaintiffs' claims that they and their decedents either contracted leukemia or face an increased risk of leukemia as a result of being exposed to (1) trichloroethylene, (2) tetrachloroethylene, and (3) 1, 2 trans-dichloroethylene.

By its attorneys,

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Dated: May 18, 1984