Abstract

Background: A litigation crisis exists in this country, and it may be better understood through analysis of lawsuits. Verdict summary analysis has been used for this purpose.

Methods: Ninety-nine jury verdict reviews from 1986 to 2001 were obtained from a computerized database. Reviews compiled data on defendants, plaintiffs, allegations of wrongdoing, cancer cell types, sites, outcomes, and case summaries. Data was entered into a spreadsheet for analysis.

Results: Failure to diagnose was alleged in 54%; of these, 48% alleged biopsies were inappropriately omitted. Allegations were highest for failure to diagnose in dermatologists and general practice physicians, for misdiagnosis in pathologists, and for complications in surgeons. Young patients and those with poor outcomes received more and larger awards. Trauma appears to have support for a role in causation of skin cancer in some courts.

Conclusions: The study of skin cancer suits may help develop risk management and prevention strategies. © 2004 Excerpta Medica, Inc. All rights reserved.

Keywords: Malpractice; Skin cancer
legal redress is sought, or for that matter contemplated, by a dissatisfied patient. When the most egregious and the less solid or even frivolous cases are removed, we are left with the suits that attorneys consider worthy of study. These are the cases attorneys evaluate for precedents, summary content, verdict outcomes, and size of judgments. Attorneys consider them to be strongly persuasive in terms of the summary content. These are the cases evaluated in this article. Data abstracted included the plaintiff’s age, sex, and occupation; the defendant’s name and specialty; cancer cell type and subsite; surgical or medical complications and morbidity; and allegations of failure to diagnose, biopsy, refer, or obtain informed consent or misdiagnosis. Also obtained were the defendant and plaintiff expert witness specialties; state and year of trial or settlement; and verdict outcomes and indemnity payments. Oncologic outcome and whether the plaintiff had sustained an injury by the defendant that allegedly increased the likelihood of cancer were recorded. Data were abstracted and entered into Quattro Pro (Corel, Ottawa, Ontario, Canada).

Results

Thirty of the 50 United States and the District of Columbia were represented, and the distribution seemed to follow population density. Fig. 1 reflects the years during which the 99 cases were settled or brought to trial. The age was known for 80 plaintiffs. The mean and median ages were 48 and 50 years, respectively. The litigation concerned cancers of the following types: basal cell carcinoma (BCC) in 25 of 99 (25%), squamous cell carcinoma (SCC) in 20 of 99 (20%), malignant melanoma in 24 of 99 (24%), other cell type in 22 of 99 (22%), unknown in 3 of 99 (3%), and not actually cancer in 5 of 99 (5%) cases. The site of origin of the skin cancer was known in 78 suits (Fig. 2).

Failure to diagnose was the most common allegation, listed in 54 of 99 cases (54%), and of these 26 of 54 (48%) alleged a biopsy should have been, but had not been, made. Other allegations included failure to refer in 9 of 99 (9%), misdiagnosis in 20 of 99 (20%), failure to obtain informed consent in 7 of 99 (7%), surgical complications in 20 of 99 (20%), and medical complications in 7 of 99 (7%) cases. In some suits allegations of negligence were multiple, so numbers do not always add up to 100%. Allegations by specialty are listed in Table 1; cancer cell types by specialty are listed in Table 2; subsites by specialty are listed in Table 3; oncologic outcomes by specialty are listed in Table 4; verdicts by specialty are listed in Table 5; subsites involved by cancer cell type are listed in Table 6; allegations by cancer cell type are listed in Table 7; oncologic outcomes by cancer cell types are listed in Table 8; and verdicts by cancer cell types are listed in Table 9.

Twenty-four suits occurred in plaintiffs aged 41 years old. Mean age was 27 years in this group; 15 of 24 (63%) plaintiffs were female, and 9 of 24 (38%) plaintiffs were male. The cancers were BCC in 5 of 24 (21%), SCC in 3 of

<table>
<thead>
<tr>
<th>Allegation</th>
<th>Dermatologist</th>
<th>Surgeon</th>
<th>Pathologist</th>
<th>General practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to diagnose (%)</td>
<td>15/22 (68)</td>
<td>3/11 (27)</td>
<td>0</td>
<td>6/7 (86)</td>
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<tr>
<td>Failure to biopsy above (%)</td>
<td>10/15 (67)</td>
<td>0/3 (0)</td>
<td>0</td>
<td>3/6 (50)</td>
</tr>
<tr>
<td>Failure to refer (%)</td>
<td>4/22 (18)</td>
<td>1/11 (9)</td>
<td>0</td>
<td>2/7 (29)</td>
</tr>
<tr>
<td>Misdiagnosis (%)</td>
<td>3/22 (14)</td>
<td>1/11 (9)</td>
<td>11/11 (100)</td>
<td>2/7 (29)</td>
</tr>
<tr>
<td>Consent (%)</td>
<td>3/22 (14)</td>
<td>3/11 (27)</td>
<td>0</td>
<td>0/7 (0)</td>
</tr>
<tr>
<td>Surgical complication (%)</td>
<td>3/22 (14)</td>
<td>6/11 (55)</td>
<td>0</td>
<td>1/7 (14)</td>
</tr>
<tr>
<td>Medical complication (%)</td>
<td>4/22 (18)</td>
<td>1/11 (9)</td>
<td>0</td>
<td>0/7 (0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cancer cell type</th>
<th>Dermatologist</th>
<th>Surgeon</th>
<th>Pathologist</th>
<th>General practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basal cell (%)</td>
<td>8/22 (36)</td>
<td>4/11 (36)</td>
<td>1/11 (9)</td>
<td>2/7 (29)</td>
</tr>
<tr>
<td>Squamous cell (%)</td>
<td>7/22 (32)</td>
<td>4/11 (36)</td>
<td>4/11 (36)</td>
<td>1/7 (14)</td>
</tr>
<tr>
<td>Malignant melanoma (%)</td>
<td>5/22 (23)</td>
<td>2/11 (23)</td>
<td>3/11 (27)</td>
<td>2/7 (29)</td>
</tr>
<tr>
<td>Other cancer (%)</td>
<td>2/22 (9)</td>
<td>0/11 (0)</td>
<td>2/11 (18)</td>
<td>2/7 (29)</td>
</tr>
<tr>
<td>Not cancer (%)</td>
<td>0/22 (0)</td>
<td>1/11 (9)</td>
<td>1/11 (9)</td>
<td>0/7 (0)</td>
</tr>
</tbody>
</table>
24 (13%), malignant melanoma in 9 of 24 (38%), other cell type in 2 of 24 (8%), unknown in 1 of 24 (4%), and not actually cancer in 4 of 24 (17%) plaintiffs. The oncologic outcome was known in 17 plaintiffs and included no evidence of disease in 14 (82%), alive with disease in 2 (12%), and dead in 1 (6%). Verdicts handed down were defendant in 10 of 24 (42%), plaintiff in 9 of 24 (38%), and settlement in 5 of 24 (21%) cases. Of the 14 plaintiff awards, however, 7 were for $1 million.

Nine of the 24 (38%) plaintiffs ≤41 years old alleged that the defendant’s treatment or neglect placed them at higher risk for developing a subsequent skin cancer. In all and irrespective of age, 20 patients alleged they were placed at a higher risk for skin cancer. This included exposure of the plaintiff to oven cleaners, steroids, ultraviolet and Grenz rays, sunburn, traumatic burns and injuries, and scars from improper surgical procedures. By the time of the trial, the development of cancer was known for 8 of the 9 young patients, and 4 had actually developed skin cancer. Verdicts for this subgroup included defendant in 2 of 9 (22%), plaintiff in 5 of 9 (56%), and settlement in 2 of 9 (22%). Of the 20 patients of all age groups who alleged that the defendant placed them at high risk, 12 (60%) had developed skin cancer by the time of the trial. Verdicts for this subgroup included defendant in 7 of 20 (35%), plaintiff in 12 of 20 (60%), and settlement in 1 of 20 (5%).

Of the remaining 15 plaintiffs ≤41 years old who did not allege being placed at higher risk for skin cancer by the defendant, 9 of 15 (60%) alleged failure to diagnose, and 4 of 15 (27%) alleged a misdiagnosis. Five of the 9 plaintiffs (56%) who alleged failure to diagnose also alleged that the defendant should have performed a biopsy but did not do so.

Overall, the oncologic outcome was known for 54 patients and included no evidence of disease in 37 of 54 (69%), alive with disease in 5 of 54 (9%), and dead in 12 of 54 (22%). Verdicts overall were defendant in 45 of 99 (45%), settlement in 20 of 99 (20%), and plaintiff in 34 of 99 (34%). The median amount asked by the plaintiff for restitution was $500,000. The median plaintiff award was $355,000, but because of 8 multimillion-dollar awards, the mean plaintiff award was $969,000. The median settlement award was $500,000, and the mean settlement award was $514,210.

Comments

A malpractice crisis has existed in this country for many years, and although the issues are somewhat clearer than in the past, little real progress in lessening this crisis has been made. The patient frequently feels in the middle between health care providers and trial attorneys. Although the amount is controversial, litigation does add considerably to the costs of medicine directly and through defensive medicine. Americans spend more per person on litigation costs than any other country in the world [12]. Other problems include limitation of access to health care for some Americans as sky rocketing costs of malpractice insurance forces physicians out of certain high-risk specialties and geographic localities [5,12]. Equally concerning is the fact that medical mistakes do occur, and health care workers are afraid to report them for fear of litigation, making prevention of these errors more difficult [13,14]. Others fear that patients who have been injured and successfully sue frequently do not receive appropriate compensation, with only 28% of premiums for insurance coverage actually going back to patients [15]. Efforts to better understand the causes

Table 3
Subsites by specialty

<table>
<thead>
<tr>
<th>Subsite</th>
<th>Dermatologist</th>
<th>Surgeon</th>
<th>Pathologist</th>
<th>General practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face (%)</td>
<td>10/22 (45)</td>
<td>6/11 (45)</td>
<td>5/11 (45)</td>
<td>2/7 (29)</td>
</tr>
<tr>
<td>Ear/scalp (%)</td>
<td>5/22 (23)</td>
<td>1/11 (9)</td>
<td>2/11 (18)</td>
<td>1/7 (14)</td>
</tr>
<tr>
<td>Trunk (%)</td>
<td>2/22 (9)</td>
<td>2/11 (18)</td>
<td>1/11 (9)</td>
<td>2/7 (29)</td>
</tr>
<tr>
<td>Extremities (%)</td>
<td>1/22 (5)</td>
<td>2/11 (18)</td>
<td>1/11 (9)</td>
<td>0/7 (0)</td>
</tr>
<tr>
<td>Unknown (%)</td>
<td>4/22 (18)</td>
<td>0/11 (0)</td>
<td>2/11 (18)</td>
<td>2/7 (29)</td>
</tr>
</tbody>
</table>

Table 4
Oncologic outcomes by specialty

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Dermatologist</th>
<th>Surgeon</th>
<th>Pathologist</th>
<th>General practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>No evidence of disease (%)</td>
<td>8/22 (36)</td>
<td>7/11 (64)</td>
<td>2/11 (18)</td>
<td>1/7 (14)</td>
</tr>
<tr>
<td>Alive with disease (%)</td>
<td>0/22 (0)</td>
<td>0/11 (0)</td>
<td>2/11 (18)</td>
<td>0/7 (0)</td>
</tr>
<tr>
<td>Dead (%)</td>
<td>4/22 (18)</td>
<td>2/11 (18)</td>
<td>2/11 (18)</td>
<td>1/7 (14)</td>
</tr>
<tr>
<td>Unknown (%)</td>
<td>10/22 (55)</td>
<td>2/11 (18)</td>
<td>5/11 (45)</td>
<td>5/7 (71)</td>
</tr>
</tbody>
</table>

Table 5
Verdicts by specialty

<table>
<thead>
<tr>
<th>Verdict</th>
<th>Dermatologist</th>
<th>Surgeon</th>
<th>Pathologist</th>
<th>General practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defendant (%)</td>
<td>13/22 (59)</td>
<td>3/11 (27)</td>
<td>3/11 (27)</td>
<td>3/7 (43)</td>
</tr>
<tr>
<td>Plaintiff (%)</td>
<td>7/22 (32)</td>
<td>4/11 (36)</td>
<td>3/11 (27)</td>
<td>2/7 (29)</td>
</tr>
<tr>
<td>Settlement (%)</td>
<td>2/22 (9)</td>
<td>4/11 (36)</td>
<td>5/11 (45)</td>
<td>2/7 (29)</td>
</tr>
</tbody>
</table>

† Million plaintiff awards (verdict and settlement) (%) | 5/9 (56) | 2/8 (25) | 1/8 (13) | 1/4 (25) |

Table 6
Subsites involved by cancer cell type*

<table>
<thead>
<tr>
<th>Subsite</th>
<th>BCC</th>
<th>SCC</th>
<th>Melanoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face (%)</td>
<td>19/20 (95)</td>
<td>10/17 (59)</td>
<td>1/15 (7)</td>
</tr>
<tr>
<td>Scalp/ear (%)</td>
<td>1/20 (5)</td>
<td>3/17 (18)</td>
<td>5/15 (33)</td>
</tr>
<tr>
<td>Trunk (%)</td>
<td>0/20 (0)</td>
<td>3/17 (18)</td>
<td>4/15 (27)</td>
</tr>
<tr>
<td>Extremities (%)</td>
<td>0/20 (0)</td>
<td>1/17 (6)</td>
<td>5/15 (33)</td>
</tr>
</tbody>
</table>

* The origin of 4 BCCs, 3 SCCs, and 7 melanomas were not known. BCC = basal cell carcinoma; SCC = squamous cell carcinoma.
and circumstances surrounding medical litigation has taken a variety of paths, including verdict summary analysis [6–11].

Verdict summary analysis is a technique whereby analysis of suits involving a specific subject, as in this analysis skin cancer, can be done. Analysis of cancer of various sites has been performed, but cancers of the skin have unique characteristics of incidence and treatment and thus result in subsequent litigation concerns [6,8,9].

Nonmelanoma skin cancer is the most common cancer in whites in the United States with at least 600,000 diagnoses/year [16]. Seventy-five to 80% are BCC, and 20% to 25% are SCC [16]. Eighty percent of nonmelanoma skin cancers arise on the face, head, or neck [16]. Melanoma has an annual incidence in the United States that is rapidly increasing [17]. Melanoma comprises approximately 2.5% of all cancers, and 50% and 35% are diagnosed in patients <55 and 45 years of age, respectively [17]. Ten percent to 20% of melanomas arise in the head and neck [17]. Surgeons, general practice physicians, dermatologists, and other health care providers are frequently involved in the care of these patients. The diagnosis and treatment of skin cancer is usually straightforward and successful, but as with cancers in other sites, patients are occasionally unhappy, and litigation can ensue.

My analysis revealed some expected and some unexpected results. Sixty-eight percent of the suits arose from cancers in the head and neck, which is consistent with the prevalence of the disease in this area. The majority of suits brought by patients with BCC involved the face (95%), and in those for whom the oncolologic outcome was known, the majority of them were without evidence of disease (95%) at the time of suit. Not surprisingly, the majority (63%) had verdicts for the defendant. Melanoma suits occurred evenly split among the specialists: 7% only involved the face; 91% alleged failure to diagnose; and 41% had defendant verdicts. The majority of SCC suits involved the face (59%) and alleged either failure to diagnose (55%) or misdiagnosis (45%). In those for whom the oncolologic outcome was known, 60% were dead by the time of trial. Defendant verdicts were only found in 25% of patients with SCC. Declining defendant verdicts associated with poor outcome has been seen in studies with cancer of the larynx and oral cavity and with thyroid disease [8,9,18]. Dawes et al [19] emphasized that patients have high expectations of a successful outcome and are more inclined to sue for an unsatisfactory outcome. Poor patient outcome would be expected to correlate with patient dissatisfaction and the initiation of litigation. A bad outcome is not evidence of malpractice, however, and negligence can never be imputed from unsatisfactory results. The correlation of bad outcome and decreased defendant verdict requires further study. If validation of this correlation is found, tort reform should follow.

Analysis of verdicts for cancers of the oral cavity and for iatrogenic facial nerve paralysis indicated variations and trends according to specialty group [9,20]. In the present study, dermatologists and general practitioners received defendant verdicts more often, and pathologists had a higher incidence of settling. Surgeons only won in 27% of the cases despite 64% of the patients having no evidence of disease at the time of the suit. Other studies have reported a variation in patient expectations according to the specialty of the defendant, and this could lead to speculation that is beyond the powers of this study to confirm.

All allegations against pathologists were for misdiagnosis (11 of 11, 100%). In general, allegations of misdiagnosis were made 22 times. The specialty was known for the defendant in 17 of these suits, and in 11 (65%) the specialty of the defendant was “pathologist.” Diagnosis of a specific cancer, or even differentiating benign from malignant cancer, can be quite subjective. Farmer et al [21] studied this phenomena by convening a group of pathologists, believed by reputation and publications to be expert in the diagnosis of malignant melanoma, to independently review a series of 37 slides submitted as “classic cases” of melanoma. They found unanimity concerning a diagnosis of benign versus malignant in only 11 of 37 (30%) cases. Ackerman [22] wrote in an editorial about that study that the results are “chilling not only to physicians, but to patients, and sobering to lawyers for plaintiffs.” He further stated that making

<table>
<thead>
<tr>
<th>Table 7</th>
<th>Allegations by cancer cell type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allegation</td>
<td>BCC</td>
</tr>
<tr>
<td>Failure to diagnose</td>
<td>12/24 (50%)</td>
</tr>
<tr>
<td>Failure to biopsy above (%)</td>
<td>5/12 (42)</td>
</tr>
<tr>
<td>Failure to refer (%)</td>
<td>6/24 (25)</td>
</tr>
<tr>
<td>Misdiagnosis (%)</td>
<td>2/24 (8)</td>
</tr>
<tr>
<td>Consent issues (%)</td>
<td>3/24 (13)</td>
</tr>
<tr>
<td>Surgical complications (%)</td>
<td>10/24 (42)</td>
</tr>
<tr>
<td>Medical complications (%)</td>
<td>2/24 (8)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BCC</th>
<th>SCC</th>
<th>Melanoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>(95%)</td>
<td>(40)</td>
<td>(18)</td>
</tr>
<tr>
<td>(0)</td>
<td>(0)</td>
<td>(14)</td>
</tr>
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<td>(7)</td>
<td>(60)</td>
<td>(9)</td>
</tr>
<tr>
<td>(38)</td>
<td>(50)</td>
<td>(59)</td>
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</tbody>
</table>

| BCC = basal cell carcinoma; SCC = squamous cell carcinoma. |
a diagnosis is subjective and that errors do not necessarily indicate malpractice. Other studies confirm these observations as well as document discordance among diagnoses in other specialties such as radiology [23,24].

Misdiagnosis may be lessened by strategies employed by many pathology groups: reviewing all histologic diagnoses from outside institutions before instituting treatment; obtaining intradepartmental second opinions on all small biopsies or new diagnoses; and freely soliciting outside second opinions when in doubt [9]. Recognizing that melanoma will always be problematic, of the 22 suits involving melanoma, 18% alleged misdiagnosis, whereas 91% alleged failure to diagnose. Of the cases alleging failure to diagnose, 65% alleged a biopsy was not but should have been taken. The allegation of failure to biopsy is an error of omission that results in harm to the patient. This error of omission has been found in other cancers and occasionally follows specialty lines [7,9,25]. Dermatology has enjoyed a lower incidence of medical malpractice than many other specialties [26,27]. In a study by Hollabaugh et al [26], errors in diagnoses were found in 17% of suits that primarily involved malignancies. They commented that errors could be purely clinical, in that a biopsy was not taken, and noted that in the literature, death in this situation was a frequent event. Specialty analysis showed a high rate of allegations of failure to diagnose for dermatologists and general practitioners, 68% and 86%, respectively. Plaintiffs further alleged that biopsies should have but were not taken by dermatologists and general practitioners in 67% and 50% of the alleged delays, respectively. Failure to diagnose was a problem in the present study with 91% of suits involving melanoma making such an allegation, and 5 of 9 (56%) of the known oncologic outcomes resulting in the patients being either dead or alive with disease. Failure to diagnose was alleged by 83% of patients with cancer of the larynx, by 86% of patients with cancer of the oral cavity, and by 54% in the present study [8,9]. Of the patients alleging delays, failure to biopsy was alleged in 48% of cases in the present study, in 58% of litigation involving patients with cancer of the larynx, and in 22% to 60% (depending on the specialty) of suits brought by patients with cancer of the oral cavity [8,9].

Altman [27] found that although dermatologists had a low incidence of lawsuits and fairly low award amounts, failure to diagnose cancer resulted in very large awards. In the present study, although dermatologists had defendant verdicts in 59% of cases (the highest of the specialties studied), they also had the highest percentage of million-dollar verdicts (56%). Altman [28], in a second study of malpractice and dermatologists, found similar findings and recommended that early and adequate biopsies be performed. The present study would support this assertion. Educational efforts to emphasize biopsy as the only definitive diagnostic test must be continued. Risk management and quality improvement goals must emphasize attainment of the necessary resources, training, and knowledge to perform biopsies and to establish clinical guidelines as to the appropriate timing of these biopsies. Appropriate biopsy techniques must be taught, and clinicians must realize that biopsies may need to be repeated if the lesion persists or if a negative result does not fit the clinical picture. These efforts should be directed at those primary care physicians and dermatologists who are most involved in skin screening.

Analysis of malpractice involving surgeons and skin cancer revealed some interesting results. Surgeons were alleged to have failed to diagnose in only 27% of cases; failure to biopsy was never alleged in this group; and misdiagnoses were also alleged in only 9% of cases. The oncologic outcome for patients bringing litigation against surgeons was good, with 64% having no evidence of cancer. Surgeons as a group did poorly, however, with only 27% obtaining defendant verdicts. Hickson et al [29] found that surgeons proportionally accounted for more patient complaints and risk management events than did nonsurgeons. Other reports have shown a variation in verdicts by specialty that may indicate different plaintiff expectations for different specialties [9,18]. Although standards of care do vary according to specialty, further verdict analysis should be performed to assure that fairness is applied across specialty lines as well.

Surgeons had a 30% rate of allegations of failure to obtain informed consent, which was the highest among the specialists in this study but still relatively low. The literature amply documents that patients remember only a fraction of what is actually told to them (35% to 55% retention at 1 week), and this problem is usually easily addressed by obtaining written informed consents [20]. Written consents have several advantages: they assure surgeons that they have covered the appropriate information; they may increase patient understanding; they are typically well received by patients; and they become a part of the patient’s record for later documentation [20]. Written informed consent forms can become an important part of a risk management approach to decreasing litigation associated with skin cancer.

What is somewhat more surprising, however, is the high rate of allegations for surgical complications (55%). In a study of iatrogenic facial nerve injury, 30% of plaintiffs alleged failure to obtain informed consent, but 89% alleged a surgical misadventure [20]. After excluding patients with any allegation other than a surgical misadventure—such as failure to diagnose, obtain informed consent, etc.—a subgroup of patients were left with the only complaint being a surgical misadventure. This group was further pared down by excluding any complaints or allegation listed as a mitigating factor such as excessive blood loss, case done by a resident, nerve monitor did not function properly, etc. This group alleged that although they knew it was possible they may have a facial nerve paralysis, the fact that they did have one indicated that malpractice had been committed. Sixty-four percent of these suits resulted in plaintiff awards [20].
A poor outcome is not necessarily evidence of negligence, but this is difficult to convey to a lay jury with the injured and disappointed patient present. Proper surgical training and careful surgical technique are, of course, indispensable, but short of these, a good bedside manner and honest patient rapport may be all the surgeon has to protect themselves in court. A young patient age has also been shown to correlate with low defendant verdict outcome and high awards in larynx and oral cavity cancers [8,9]. In the present study, in patients <41 years old, 58% of the patients received awards. Fifty percent of those awards were for ≥$1 million. Legal theories are very precise about what constitutes negligence, and outcome or patient age is purportedly irrelevant. A number of studies would question that assertion, and further study and reform may be indicated.

Twenty patients (20%) brought suits alleging they were placed at a higher lifetime risk for developing cancer because of acts committed by the defendant. Theories on traumatically induced cancers have evolved and continue to do so in both the scientific and legal literature. Kern [30] stated that the theory of a single traumatic event causing breast cancer had been rejected in the mainstream of scientific thought because of three important events: (1) experimental studies failed to show that trauma could induce breast cancer; (2) scientific criteria defining traumatic cancer eliminated most potential candidates; and (3) advancement of biologic knowledge about the causes of cancer refuted the theory of traumatically induced breast cancer. This was eventually followed by a similar rejection of the theory of traumatically induced breast cancer in expert witness testimony and in the legal literature [30]. The change occurred much later in the legal than in the scientific literature, but it did point out that legal theory was not immutable and could be influenced by the scientific community.

Chronic irritation, chemical irritation, and burns both sun induced and thermal are more controversial. Cantor et al [31] state that the phenomena of cancer arising in burn scars is well established and may have an incidence of at least 2%. They suggest that Ewing’s criteria for diagnosis—(1) authenticity and severity of injury, (2) previous integrity of wounded part, (3) tumor originating within the boundaries of the injury, (4) histologic variety of cancer compatible with scar tissue, and (5) proper latent period—be applied [31]. More recently, Love and Bridal et al [32] suggested that although the latent period is usually 20 to 40 years, much shorter periods may be observed. Monkman et al [33], in a review of trauma and oncogenesis, stated that although there is no evidence to suggest that single uncomplicated trauma can cause skin cancer, they believed that trauma may act as a cocarcinogen in combination with other factors to cause skin cancer. Interestingly, in the present study 12 of 20 (60%) patients alleging injury had developed a cancer by the time of the suit. Unfortunately, it was not possible to apply Ewing’s criteria based on the information contained in the verdict summary. Sixty-five percent of the plaintiffs received an award or settlement in this group, thus indicating juries’ acceptance of this trauma as constituting or contributing to negligence.

It is beyond the scope of this report to discuss the entire literature concerning trauma and skin cancer, but it seems that certain types of trauma do contribute to cancers of the skin, and some types do not. Precedence exists for scientific thought, based on experimental studies and clinical criteria, to be used to form and direct legal thought. It should be therefore reasonable for surgical, dermatologic, and other interested groups to develop position papers based on the scientific literature, similar to practice guidelines, to guide expert witness testimony and to contribute to the legal literature. Clinical practice guidelines have been used in malpractice suits by both plaintiff and defense attorneys to support standards of care. Courts have allowed the weight and collective wisdom of the groups writing these guidelines to be considered. Establishing guidelines with levels of disagreement similar to those seen in clinical guidelines may help to bring legal thinking more in line with scientific thought and decrease the current “free-for-all” seen in expert witness testimony.

### Summary

The following points can be made about litigation and skin cancer and what might be done to address them:

1. A poor outcome is frequently seen in suits that favor the plaintiff. Further study may help define this problem.
2. Misdiagnosis is a relatively common reason for suits involving pathologists and plaintiffs with skin cancer. Establishment of protocols for second opinions and the review of certain cases may help eliminate some of these suits.
3. Failure to diagnose is a common allegation for suits involving skin cancer patients, and failure to perform a biopsy is a common reason for this allegation. Education and clinical protocols may help prevent some of these suits.
4. Informed consent issues are seen relatively rarely in suits involving cancers of the skin and can be addressed in large part by written consent forms.
5. Trauma-induced skin cancers are relatively rare, and the pathogenesis is largely unknown. Guidelines for expert witness testimony may be constructed to help guide legal opinions.
6. Study of litigation outcomes by verdict analysis and similar techniques may contribute to our knowledge, help prevent litigation, help improve treatment of patients, and serve as a springboard for study of related topics.
References


