

Risk Management Aspects of Implant Dentistry

Navot Givol, DMD¹/Shlomo Taicher, DMD²/Talia Halamish-Shani, LLB³/Gavriel Chaushu, DMD, MSc⁴

Purpose: To categorize and review complications related to implant dentistry that have resulted in legal actions. **Materials and Methods:** The records of 61 patients (39 women and 22 men) were retrospectively evaluated according to a structured form. Ages ranged from 28 years to 78 years (mean 49 ± 12 years). The time lag in months between actual damage and legal action ranged from 0 months to 60 months (mean 12.7 months). **Results:** Implant type, length, width, and locations varied widely and had no impact on the liability report. Half of the lawsuits were filed as a result of actual body damage (loss of sensation, oroantral fistula, life-threatening bleeding); 35% of the lawsuits were filed because of late complications; and 15% were related to immediate complications not leading to actual body damage. The dental consultants acknowledged liability in 41 of 61 cases. The clinician's errors that led to the reported complication were classified as preoperative in 39 of 41 cases. The doctor's attitude was considered positive in 40 cases and negative in 17 cases. **Discussion and Conclusions:** Clinicians should report as soon as possible to their insurance companies to get professional help. The main causes for lawsuits are actual body injury and major disappointment. Practitioners should dedicate a significant part of the entire treatment time to preoperative diagnosis and planning. (INT J ORAL MAXILLOFAC IMPLANTS 2002;17:258-262)

Key words: dental implants, injury, lawsuit, malpractice

A dramatic increase in the number of dental practitioners performing implant placement surgery has occurred in the last 15 years. Compared with complications of many dental procedures, complications related to implant dentistry can be severe. As the utilization of dental implants increases, so do the reports of the number, variety, and severity of surgical and prosthetic complications. Some of them may be considered only inconveniences, cor-

rectable nuisance, or prolongation or modification of the treatment plan. Others may require major surgical or prosthetic corrective interventions.

Despite the minor nature of most such complications, the practitioner involved in implant-related treatment should not trivialize their significance to the patient. Many patients consider implantation a major decision because of the fear of the unknown and potential monetary loss. Complications and delays can be demoralizing and disappointing, leading to loss of confidence in the clinician. Occasionally, a patient cannot accept alterations to the original treatment plan and interprets them as negligence and malpractice with subsequent filing of a legal claim against the treating dentist.¹ The number of malpractice suits related to implants has increased significantly, with awards that are among the largest in dentistry.²

The complications of implant dentistry are well known and have been described in the literature.¹ The purpose of this study was to categorize and review complications related to implant dentistry that resulted in legal actions against the treating practitioner.

¹Attending Dentist, Department of Oral & Maxillofacial Surgery, The Chaim Sheba Medical Center, Tel Hashomer, Israel; Medical Risk Management Company, Tel Aviv, Israel.

²Professor and Head, Department of Oral and Maxillofacial Surgery, The Chaim Sheba Medical Center, Tel Hashomer, Israel.

³Legal Consultant, Medical Risk Management Company, Tel Aviv, Israel.

⁴Senior Lecturer, Department of Oral and Maxillofacial Surgery, The Chaim Sheba Medical Center, Tel Hashomer, Israel.

Reprint requests: Dr Navot Givol, Department of Oral and Maxillofacial Surgery, The Chaim Sheba Medical Center, Tel Hashomer, Israel 52621. Fax: + 972-3-5341210.

E-mail: drshaush@netvision.net.il

MATERIALS AND METHODS

Most of the dental practitioners in Israel (95%) are obligated to report any incidence or suspicion of legal action against them to the Medical Consultants International (MCI) Company as part of their professional liability insurance. The purpose of this investigation was to retrospectively analyze all cases that were related to implant dentistry, reported to MCI between the years 1992–1999.

Sample: 61 patients (39 women and 22 men) who were treated with dental implants in Israel and took legal actions as a result of various implant-related complications were included in this study. Ages ranged from 28 years to 78 years (mean 49 ± 12 years). The MCI records were retrospectively evaluated according to a structured form.

The parameters studied included: patient age and gender; implant brand name, location, and length; time lag between actual damage and legal action; imaging modality; complication type; operators' error; and doctors' attitude.

RESULTS

Enrollment number and year of the procedure were as follows: Three cases were reported in 1992, 7 in 1993, 10 in 1994, 8 in 1995, 14 in 1996, 12 in 1997, 4 in 1998, and 3 in 1999.

Enrollment number and year of legal action were as follows: No cases were reported in 1992, 4 cases in 1993, 4 in 1994, 4 in 1995, 10 in 1996, 14 in 1997, 18 in 1998, and 7 in 1999.

The time lag in months between actual damage and legal action ranged between 0 and 60 months (mean 12.7 months).

The panoramic radiograph was the sole imaging modality used in 53 cases, the periapical radiograph was the sole imaging modality in 4 cases, and computerized tomography was used in 3 cases. In 1 case, the imaging modality was not specified.

Implant type, length, width, and location varied widely and had no impact on the liability report. Implants of 15 brand names were used.

Reports were classified as follows: *primary*—reported by the dental practitioner without prior involvement of the patient; *secondary*—demands of financial compensation from the patient or his representative without involvement of the court of law; *tertiary*—lawsuits. Sixteen of the reports were primary, 28 were secondary, and 17 were tertiary. Seven of the primary reports and 2 of the secondary reports developed into lawsuits; thus, 26 lawsuits were filed overall. Half of the lawsuits were filed as

a result of actual body damage (loss of sensation, oroantral fistula, life-threatening bleeding); 35% of the lawsuits were filed because of late complications; and 15% were related to immediate complications not leading to actual body damage.

All patients filing claims were responsible for their own dental bills (they had no third-party coverage).

Specialists performed 40% (24) of the procedures, while the other 60% (37) were performed by general practitioners.

Complications resulting in legal action were divided into immediate and late groups. Immediate complications were defined as those occurring between first- and second-stage surgery and included: altered sensation (16), implant failure (10), unfavorable implant location compromising the prosthetic rehabilitation (7), postoperative infection (3), invasion of the maxillary sinus (2), and life-threatening hemorrhage (1). Late complications were defined as those occurring following stage 2 surgery and included: implant loss not resulting in the loss of the prosthetic rehabilitation (4), loss of the prosthetic rehabilitation (16), and massive bone loss related to implant failure (2).

The MCI dental consultants acknowledged liability in 41 of 61 cases (Tables 1 and 2). Liability was acknowledged in 30 of 39 cases classified as immediate complications and in 11 of 22 cases classified as late complications.

From those cases classified as immediate complications, in all the cases of altered sensation, implant malposition, invasion of the maxillary sinus, and life-threatening bleeding, liability was acknowledged. In only one third of the cases where the complication was infection or implant failure was liability acknowledged. For cases classified as late complications, in nearly half, liability was acknowledged.

The operator's errors that led to the reported complication can be classified into preoperative, intraoperative, and postoperative. Of the immediate complications, 29 of the 30 cases with acknowledged liability were preoperative and only 1 was intraoperative. Of the late complications, 10 of the 11 cases with acknowledged liability were preoperative and only 1 was postoperative.

The doctor's attitude after the occurrence of the complication (both immediate and late) was also examined. In 40 cases, the doctors' attitude was considered positive, ie, the doctors offered to replace the failed implant and/or the failed prosthesis at their own expense (21 cases), the patients were referred to an expert for consultation (16 cases), and in 3 cases, financial compensation was offered. In 17

Table 1 Immediate Complications

	No. of cases	Liability acknowledged	Time of error	Type of error
Loss of sensation	16	16 (100%)	Preoperative	Preoperative radiograph misinterpretation
Malposition	7	7 (100%)	Preoperative	Poor treatment planning
Implant failure	10	3 (30%)	Preoperative	2—smoking; 1— inadequate bone height
Invasion of the maxillary sinus	2	2 (100%)	Preoperative	Inadequate bone height
Infection	3	1 (33%)	Preoperative	1—immediate implantation following extraction of an infected tooth
Life-threatening hemorrhage	1	1 (100%)	Intraoperative	Wrong angulation of the drill
Total	39	30 (77%)		

Table 2 Late Complications

	No. of cases	Liability acknowledged	Time of error	Type of error
Loss of prosthetic rehabilitation	16	7 (44%)	Preoperative	2—significant bone loss prior to loading; 2—insufficient abutments; 1—abutment fracture related to excessive angulation; 1—use of an abutment with a diameter not compatible with the implant diameter; 1— postloading fracture of an implant placed in up to 50% of its original height
Implant loss without loss of the prosthetic rehabilitation	4	3 (75%)	Preoperative	3—inadequate maxillary bone height and width
Massive bone loss	2	1 (50%)	Postoperative	1—improper follow-up
Total	22	11 (22%)		

cases, the doctors' attitude was considered negative. In all of those cases, the doctors ignored the patients' complaints. In 4 cases, the doctors' attitude could not be determined, since the legal action was taken by the patient without informing the doctor about the occurrence of the complication.

DISCUSSION

Recent statistics of MCI on general dental treatment indicate that as many as 1 of every 12 dentists in Israel may be sued each year, while in the United States 1 of 20 dentists will face the same problem each year.³

Between the years 1992 and 1999, 61 reports concerning dental implants were received by MCI. The enrollment rate of the procedure demonstrated a gradual increase from 1992 to 1997. The enrollment rate of legal action demonstrated a gradual increase from 1995 to 1998. The mean time lag between the procedure and the legal action was 12.7 months. This explains the discrepancy between the enrollment rates. This also explains the fact that the statistics of the procedure in 1998 and 1999 and the statistics of the legal action in 1999 were probably an underestimation. It can be deduced that with the increasing use of dental implant treatment and the acceptance of more challenging treatment plans, the number of legal actions will probably increase. A problem that has not affected the entire dental profession may soon become a major concern, unless all members of the dental community undertake more precautions. Such a concern has motivated this exploration of the occurrence and rationale that have led to such legal actions in implant dentistry.

Implant type, length, diameter, and location have not demonstrated a characteristic pattern. This implies that most legal actions are not the result of a specific implant type and design, although a wide variety of implants (more than 15 brand names) were used, but are rather operator-dependent. Thus, efforts to reduce failures should be devoted more to improvement of operator performance rather than improvement of implant quality.

The gender differences (female/male ratio ~2:1) concerning legal actions related to implant treatment are similar to those in general dentistry. This is most probably related to the fact that women in general receive more dental treatment compared to men.

Both specialists and general practitioners have been exposed to legal actions. Although specialists generally treat the more challenging cases, efforts to improve the performance of implant dentistry should be made by all those who provide this service.

Clinicians reported the damage in only 16 of 61 cases. They should be encouraged to seek medical and legal help more often to enable the appropriate professionals to manage the legal actions better and earlier.

In the present study, patients paying their own bills without third-party involvement filed all of the claims. This observation is compatible with the data published by Clark and associates⁴ in their report concerning dental malpractice claims in the United States.

The results demonstrate that patients tend to file lawsuits mainly when the treatment results in actual body damage or when the entire treatment plan was faulty. In the absence of permanent body damage, or in cases where the treatment plan is salvageable, patients seem willing to negotiate for compensation.

Most of the reports were received as a result of immediate complications. This is compatible with the fact that most of implant-related complications occurred during the surgical stage. A majority of the immediate complications concerned permanent nerve injury (16 cases). In all 16 cases reported in this article, liability of the clinicians was acknowledged. Thus, it can be deduced that the reported nerve injuries may have been avoided by a better interpretation of the preoperative data. The true number of nerve injuries related to dental implants is probably larger than reported here, but the actual incidence cannot be determined.

The 7 reports concerning unfavorable implant location should be emphasized. Some practitioners tended to overlook the importance of correct implant location by their optimistic tendency to believe that an unfavorable location could be corrected during the prosthetic phase of treatment. Unfortunately, this is not always possible. Those reports demonstrate that such cases can compromise the entire treatment plan, leading to a major disappointment for both the patient and practitioner. Since implant placement is an elective procedure, it is almost impossible to defend such a claim because proper planning is a prerequisite for all elective dental treatment.

Liability was acknowledged in 66% of the cases. It can be deduced that in implant dentistry, most of the complaints have merit. Therefore, doctors should not disregard complications during the informed-consent process.

Most of the clinician errors occurred in the preoperative phase. This emphasizes the fact that such errors were avoidable. A major part of any treatment, especially an elective one, should include proper planning and correct interpretation of the information collected during the diagnostic appointments.

Most risk-management advisors emphasize the importance of a good and reliable doctor-patient relationship. Although the doctors' attitude was considered to be positive in the majority of the cases, this did not prevent legal action.

CONCLUSIONS

1. Clinicians should report complications as soon as possible to their insurance companies to assure professional help.
2. The main causes for lawsuits are actual body injury and major disappointment.
3. Practitioners should dedicate a significant part of the entire treatment time to preoperative diagnosis and planning, as well as patient education.
4. The combination of proper operative skills and a good doctor-patient relationship will reduce legal claims.

REFERENCES

1. Smith RS. Long-term complications of osseointegrated implants. In: Kaban BL, Pogrel MA, Perrot HD (eds). *Complications in Oral and Maxillofacial Surgery*. Philadelphia: Saunders, 1997:319-358.
2. Palat M. Assessing legal responsibility for implant failure. *Compendium* 1991;12:295-296.
3. Milgrom P, Fiset L, Whitney C, Conrad D, Cullen T, O'Hara MA. Malpractice claims during 1988-1992: A national survey of dentists. *J Am Dent Assoc* 1994;125:462-469.
4. Clark N, Paquin N, Nevin J. Dental malpractice: Baseline data from insurance claims closed in 1970, with analysis. *Public Health Rep* 1984;99:87-93.