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RESEARCH ARTICLE

MALPRACTICE IN ORTHODONTICS - A REVIEW AND RECOMMENDATION TO OVERCOME THE SAME

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Abstract

This article aims to describe some of the potential risks of orthodontic treatment which when neglected can lead to a malpractice lawsuit.In orthodontic practice,categories vary from informed consent or negligent non-disclosure,failure to diagnose,to gross negligence.This study focuses on creating awareness about the importance of informed consent before orthodontic procedure to avoid legal issues.Orthodontic failures do occur sometimes but it should be identified earlier and rectified.Consent should be seen as a process and any discussions should be fully and legibly recorded in the patient records. Key words: Malpractice, informed consent, hazards of orthodontic treatment, Negligence.

Introduction:-

In this current era of increasing consumerism, we need to be careful and aware of the medico- legal laws as patients are becoming more consumer oriented. Orthodontist are surely not an exception when it comes to medical malpractice lawsuits. Patient expectations from orthodontic treatment are much more as it enhances smile and facial esthetics. There are well defined risks for the patient even with appropriate and skillfully executed treatment. There are other risks for the practitioner, when the common orthodontic treatment failures are neglected which can be called as Orthodontic Malpractice. This article aims to describe some of the potential risks of Orthodontic treatment which when neglected can lead to a malpractice lawsuit.

Orthodontic Malpractice

Medical / Dental malpractice issues are generally based on the unintentional torts of negligence rather than intentional torts such as assault or battery or strict liability. According to Winfield[1],

"Negligence as a tort is the breach of legal duty to take care which result in damage, undesired by the defendant, to the plantiff."

The elements of cause of action for negligence in a medical or dental setting are those common to negligence in general. They are

1) Duty, an obligation owed to the plantiff by thedefendant,
2) Breach of duty, failure of the defendant to meet the obligation owed to theplantiff,

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3) Causation, (sometimes referred to as proximate cause), a close, causal link betweenthe breach of the duty owed to the plantiff by the defendant and the injury suffered by the plantiff.
4) Damages, the sustaining of some compensable injury by the plantiff as a result ofbreach of the defendant'sduty.

In orthodontic practice, the general categories could be
1) Informed consent or negligent nondisclosure
2) Failure to diagnose, failure to refer or negligentreferral
3) Bad result or failure to achieve a desired treatmentobjective
4) Improper withdrawal ofcare
5) Gross negligence

Breach Of Duty
A health care provider's duty to inform generally requires disclosure of the nature of the patient's condition or a diagnosis; the nature and purpose of proposed treatment; the risks, consequences, and anticipated results of the proposed treatment; the alternate treatments; the risks, consequences, and anticipated results of the alternative treatment; and the probable or possible consequences of accepting no treatment[2].

A breach of duty to obtain informed consent may be established if the health care provider fails to address any of the required elements of disclosure.

Potential Hazards Of Orthodontic Treatment
Improvement in dental health, function, appearance and self esteem are some of the recognized benefits from Orthodontic treatment. Inspite of these benefits, orthodontic treatment carries with it the risks of tissue damage, treatment failure and increase predisposition to other dental disorders. Some patients are at more risks than others and these patients should be informed prior bout the adverse effects, identified earlier and managed appropriately to prevent any consequences.

The potential hazards of orthodontic treatment are three-fold:
1) Tissuedamage
2) Treatmentfailure
3) Greater predisposition to dentaldisorders

Tissue damage:
Both the intraoral and extraoral tissues are at risk of damage during orthodontic treatment.

EnamelDamage:
With fixed appliances, it was reported that around 0-30μm of enamel is lost due to etching, bonding and then debonding and residual adhesive removal on the tooth. In a cross-sectional study, it was reported that 50% of individuals undergoing orthodontic treatment had non- developmental enamel opacity, compared to 25% controls[3]. Another study found that, even after 5 years of orthodontic treatment, patients had a significantly higher amount of enamel opacities than untreated controls[4].

Enamel demineralization and white spot lesions occurs during orthodontic treatment and patients should be informed about this potential risk and every step should be taken to prevent white spot formation. Patients should be advised about oral hygiene maintenance and fluoride applications before and during treatment.

EnamelFractures:
Sometimes small cracks in the enamel surface are seen after removal of orthodontic appliances. These cracks serve as a stagnation area for the development of caries, cause partial tooth fracture or may discolor. These are more often seen with chemically bonded ceramic brackets and patients should be informed about these during the consent process. Zachirsson et al[5] found that the prevalence of pronounced cracks in relation to the total number of cracks was 6% for debonded teeth and 4% for untreated teeth.

Periodontal Problems:
Gingival inflammation following orthodontic treatment is almost a common problem in all patients. This is mainly due to difficulty in maintaining oral hygiene leading to increase in plaque formation and change in oral microflora.

Another concern is with adult patients who seek orthodontic treatment with pre-existing periodontal problems. In these patients, orthodontic forces should be kept to aminimum in the view of shortened rootsupport.

Patients with systematic conditions like diabetics and epilepsy should be informed about the potential risk of gingival hyperplasia and loss of bone which might occur during the treatment in order to prevent the dento -legal issues.

RootResorption:
Root resorption with orthodontic treatment is inevitable which is usually minimal, affecting the apical 1-2mm only. This doesn't compromise the long-term prognosis of the teeth. Severe resorption of more than one quarter of the root length occurs only in about 3% of the individuals[6].

Risk factors associated with an increased incidence and severity of root resorption include the pre-treatment root form or length, previous dental trauma and the type of mechanics used. Teeth with blunted, pipette shaped, or short roots are at increased riskof resoprtion[7,8].

PulpDamage:
Orthodontic patients can experience transient pulpal damage causing pain and discomfort in the first few days of appliance adjustment which usually settles within a week. Pulpal death following orthodontic treatment is occasionally reported but if there was previous trauma to the pulp of a tooth, there is slightly higher risk of pulpal damage.

Soft tissueDamage:
Soft tissue damage occurs from direct injury to the oral tissues by fixed or removable appliances. Patients may suffer from mouth ulcers due to rubbing of the lips and cheeks on the brackets, bands or cleats. The oral tissues quickly toughen up to a new appliance but wax can be used for temporary relief. TPA and lingual arch can cause trauma to the palate or tongue.

Injury fromappliances:
Appliances are designed to have a maximum amount of strength and a minimum amount of injury potential. Nevertheless, accidents can occur and a patient can be injured bysharp parts of the appliances. It is also possible for a patient to swallow or inhale small parts of the appliance that fall into the back of the throat at any time, including routine office visits.

Headgear can cause injury if its displaced either during sleep or rough play. The headgear bow is not only sharp but also covered in oral bacteria. To minimize the risk of injury, headgear now has safety features that stop it from being accidentally displaced or recoiling back into the face or eyes. Patients should be given both written and oral safety instructions after fitting headgear.

Damage from Orthodonticmaterials:
Orthodontic materials can induce allergic reactions. Nickel

Nickel hypersensitivity occurs commonly in general population and nickel is found in stainless steel wires, brackets, bands and headgear.

For sensitive patients, exposed metalwork should be covered with tape or plasters or headgear use should be discontinued. Intra-oral signs and symptoms of nickel allergy are rare because the concentrations of nickel necessary to provoke a reaction in the mouth are higher[9]. Intra-oral signs are highly variable and difficult to diagnose, like erythematous areas or severe gingivitis in the absence of plaque.

Latex
Latex sensitivity may occur in response to contact with latex gloves or elastomeric ligatures and intra and extra – oral elastics. In that case, steel ligatures or self ligating brackets should be used. Treatment plan must be modified avoiding class II or class III traction.

Other materials
Other orthodontic materials that cause allergic reactions are composite and acrylic. Toxicity is due to unpolymerized material and greatest immediately following polymerization, although cytotoxicity is still evident 2 years after polymerization[10]. No- mix adhesives are more toxic than two paste adhesives.

Treatment Failure
Failure to complete a course of orthodontic treatment is most common(4-23%)[11]. Its sequelae include residual spacing and malalignment, traumatic overbite, residual overjet, crossbite and relapse.

Treatment may fail through incorrect diagnosis, incorrect management, patient non - compliance, increased treatment duration, unexpected growth changes and relapse.

Incorrect diagnosis andmanagement:
A proper diagnosis at the start of the treatment is essential for a successful result. Proper treatment plan for a particular case helps in achieving the best possible result and the orthodontist should keep himself upto date regarding latest techniques available for a particular case. Treatment may fail because of incorrect diagnosis and treatment plan was incorrectly formulated. Careful maintenance of records and documentation of each step is important to bring about the appropriate result at the end of the treatment.

In situations when a case is transferred from another dentist or an orthodontist, correct diagnosis and maintenance of records should be done and treatment should be done based on what is right for the patient and not continuation of what the other dentist was treating. It leads to a lawsuit when an orthodontist just follows whatever treatment has been going on without doing proper diagnosis.

Patientnon-compliance:
It is essential to talk to all orthodontic patients to establish whether they a need for a treatment and fully appreciate their commitment- treatment times of perceive approximately 2 years, followed by a lengthy period of retention. They must demonstrate good oral hygiene and be free from active dental disease at the start. Treatment duration might vary from individual to individual as their reaction to orthodontic forces vary and this must be explained to the patient in the start of the treatment.

A patient's motivation to maintain good oral hygiene throughout treatment can decline. This may lead to early removal of appliances to avoid damage to the teeth and supporting structures. When patients request their appliances to be removed early for personal reasons treatment goals cannot be met. Sometimes patients have difficulty in tolerating the appliances most appropriate for correction of their malocclusion. In such cases often a compromised treatment plan can be established but not always.

Unexpected Growth changes and additional treatmenttime:
Unexpected turn of events might happen due to growth changes of the facial structures and teeth. If growth becomes disproportionate, jaw relationships can be affected. If this occurs, original treatment objectives cannot be met. These growth changes and other periodontal problems might lead to change in treatment plan which was previously discussed and also leads to additional treatment time and cost.

Relapse:
The teeth positions at the end of orthodontic treatment are not perfectly stable and requires retention. The retainers that the patient wears enhance the stability of the final result. Even then patient's teeth don't stay exactly where they were at the end of the treatment. The teeth and jaw structures constantly change throughout one's life and these maturational changes that occur after orthodontic treatment changes the quality of end result. Wearing a retainer reduces these changes to a minimum but still changes occur which may lead to relapse where the original problem re-emerges.

Greater Predisposition To Dental Disorders
There is little relationship between orthodontic treatment and TMJ disorders. Studies have shown that there is no association between the two[12,13]. Orthodontics cannot cure TMD and likewise does not appear to be associated with its development. It is important to record if signs and symptoms of TMD are or have been present previously. This point should be discussed with patient before the start of the treatment.

Informed Consent Form For Orthodontic Treatment
The following information should be routinely provided to anyone considering orthodontic treatment, explained properly by the orthodontist and consent should be obtained.

1. Discomfort caused by theappliance
2. Appointmentintervals

3. Choice of Ceramic/metalbrackets
4. Removal of teeth as a part of treatmentplan
5. Decalcification, decay and gum disease that mightoccur
6. Requirement of preventive orthodontictreatment
7. Requirement of removable, functional or fixedappliances
8. Injury fromappliances
9. Root resorption associated with orthodontictreatment
10. Impacted teeth to be extracted or included as a part oftreatment
11. Ankylosed teeth and theirmanagement
12. Severely overlapped teeth and its associated untoward periodontaloutcomes
13. Camouflage or surgical orthodontic treatmentrequired
14. Soft tissue changes associated with orthodontictreatment
15. TMJ pain present before the start oftreatment
16. Specialized orthodontic treatment in TMJ ankylosis, syndromic and cleftcases
17. Devitalization ofteeth
18. Treatmentprogress
19. Additional treatment required during treatmentprogress
20. Late growth changes that might alter the treatmentresults
21. Success of treatment
22. Diastema and severely rotated teeth more chances for relapse and requires minorsurgical intervention and permanentretention.
23. Retention phase required (Removable retainer / lingual bondedretainer)
24. Return of original problem /relapse
25. Necessity for retreatment ifrequired

Conclusion:-

Once an orthodontist explains all the potential risks to the patient, it leaves the orthodontist puzzled as whether the patient would take up the treatment or not. The anxiety of the patient in taking up the treatment causes apprehension to the doctor and hence most of the doctors leaves out certain information in order to avoid losing the patient. On a legal background, this is wrong and might lead to a lawsuit. Irrespective of whether this would favor the doctor or not, relevant information regarding the condition of the patient, treatment options, the risks and consequences should be explained beforehand to the patient to lead a healthy and successful orthodontic practice in a longer run.

It can be seen that the risks associated with orthodontic treatment are many and varied. Orthodontic failures do occur sometimes but it should be identified earlier and rectified. An orthodontist shouldn't neglect any of the details or risks of the treatment and should inform the patient about the possibilities of the risks and get an informed consent in order to avoid any medico-legal lawsuit. Consent should be seen as a process and any discussions should be fully and legibly recorded in the patient records. Hence, having a knowledge about medicolegal background would help an orthodontist to practice in a confident and safe way which helps in avoiding orthodontic malpractice from happening.

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