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Ethical Dilemmas in Orthodontics

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Authors' contributions

This work was carried out in collaboration between both authors. Author MM designed the study, and wrote the first draft of the manuscript. Author YM managed the literature searches. Both authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Aim: To present a clinical case as an example of an ethical dilemma that orthodontists may face when advocating for the best interests of a child.
Case Presentation: A five-year-old girl attended my private orthodontic clinic with a main complaint of lower anterior teeth overlapping her upper anterior teeth. She was in the primary dentition stage. There was a conflict between the orthodontist's interests of the child and the need to respect parental autonomy. Her mother had doubts and misgivings about the effectiveness of orthodontic treatment and was reluctant to have her daughter begin treatment at this age.
Discussion: Factually, there are ethical problems continuously encountered by orthodontists during orthodontic interventions, even though there are important human values at stake in the course of treatment. These values may include preventing pain, maintaining and restoring oral function for normal speech and eating, preserving and restoring the patient's physical appearance, and promoting a sense of control over and responsibility for one's own health. Last but definitely not least, orthodontists deal largely with children, and ethical problems arise especially when there is moral uncertainty.

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Conclusion: The ethical traditions and codes of conduct of medicine and dentistry require orthodontists to act in the interest of their patients regardless of financial arrangements, and even, at times, with risk to themselves. In the case of children, this interest in the patient becomes even more pronounced and may conflict with the orthodontist's interests to respect the wishes of the patient.

Keywords: Ethical; dilemmas; orthodontics.

1. INTRODUCTION

In the usual course of a therapeutic relationship, clinical care and ethical duties run smoothly together since generally, the patient and the physician share the same goal: to respond to the medical problems and needs of the patient [1].

Like physicians and dentists, orthodontists have a moral obligation to promote the patient's interests and protect the patient from harm. Although many physicians and most dentists function as independent entrepreneurs either individually or in groups, medical and dental care are not viewed as ordinary commodities in the marketplace where interactions are governed by contracts and laws of commerce [2].

Doctors and dentists possess special training and expertise which patients and their families do not. This special knowledge and skillset, which has the potential to benefit as well as harm patients, places on the medical or dental professional the moral obligation to act in the interests of the patient. This concept of dedication to the interests of the patient is what distinguishes a profession from a purely commercial venture, and is expressed in the moral principles of beneficence and nonmaleficence. These principles are outlined in the codes of ethics of the respective professional organizations [3-4].

The historical origins of these beliefs include the Hippocratic tradition, dating back to the 5th century B.C., and the Judeo Christian ethic of care of the sick [5]. These tenets recognize the vulnerability of patients with respect to their illness or disability, the professional's specialized knowledge and expertise that the patient has sought out, and the potential for conflict of interest when doctors are paid for their services. These moral obligations require the effacement of the doctor's self-interest for the sake of the patient [6].

For example, a patient presents with an anterior dental cross bite on a single tooth and wants relief, so the orthodontist responds to the patient by utilizing the correct means to diagnose and treat this condition. In this situation, the treatment for, say, a simple dental cross bite is effective, and the patient is satisfied. At the same time an ethical action has taken place: the patient is helped and not harmed. In other cases, this simple scene becomes more complicated. The patient's cross bite may be caused by premature contacts and may become complicated as the patient ages if left untreated. These occlusal interferences, particularly in children, may implicate potential damage to the whole stomatognathic system, which includes the teeth, supporting structures, neuromuscular system, and temporomandibular joints. Additionally, the treatment may be complex, difficult, and may prove unsuccessful [7,8,9,10,11,12,13,14]. On other occasions, the smooth course of the doctor–patient relationship may be interrupted by what we call an ethical question: a doubt about the right action when ethical responsibilities conflict, or when their meaning is uncertain or confused. For example, the physician's duty to cure is countered by a patient's refusal of indicated treatment, or the patient cannot afford treatment because of lack of insurance. The principles that usually bring the clinician and the patient into a therapeutic relationship seem to collide. This collision blocks the process of deciding and acting, both of which are intrinsic to clinical care. This confusion and conflict can become distressing for all parties [1].

This paper will present the ethical features of the case, including the need to benefit the patient, avoid harm, and respect the preferences of the parents. Ethical codes of the American Dental Association and the American Medical Association are referenced. Ethical dilemmas include the conflict between the orthodontist's obligations in advocating for the best interests of the five-year-old female child, whose mother has misgivings about the effectiveness of orthodontic treatment and a reluctance for treatment at this age, and the need to respect parental autonomy. Parental autonomy is respected up to the point at which significant harm to a child may result. The

orthodontist's primary ethical responsibility is to the child, not to the parents.

2. PRESENTATION OF CASE

A five-year-old girl attended my private orthodontic clinic with a major complaint of lower anterior teeth overlapping her upper anterior teeth. She was in the primary dentition stage. In the extra oral examination, the patient profile was straight while lip profile was reversed, giving the appearance of Class III (Figs. 1-3).

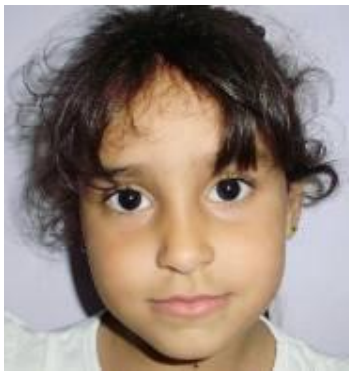

Fig. 1. Frontal-extraoral view

Fig. 2. Smile view

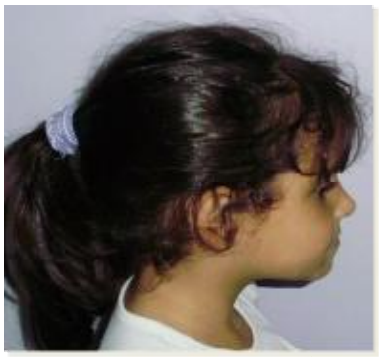

Fig. 3. Profile view

The intra-oral examination revealed a forward shift of the mandible, with a marked mesial step and anterior cross bite (Figs. 4-6).

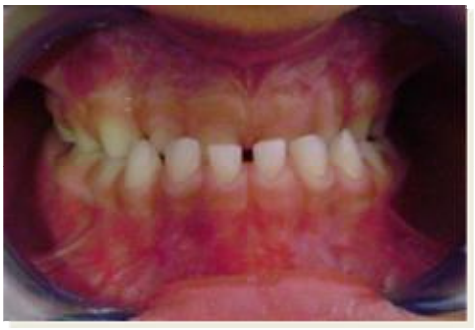

Fig. 4. Frontal-intraoral view

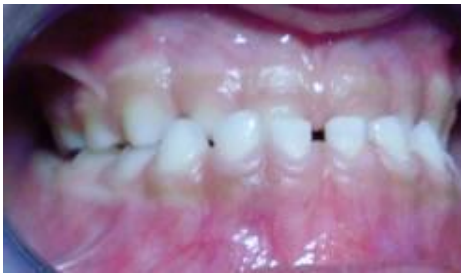

Fig. 5. Right side-intraoral view

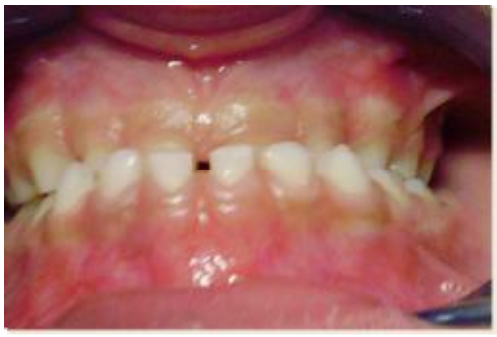

Fig. 6. Left side-intraoral view

2.1 Diagnosis

The clinical examination revealed a retruded upper lip with a protruded lower lip, giving the view of deficient midface as is seen in Class III. The upper incisors were retruded and spaced while the lower incisors were slightly proclined. An anterior cross bite in the presence of a forward mandibular displacement and functional shift to the left side, due to premature contact between upper and lower central incisors, was observed, leading to diagnosis of Class III

malocclusion with reverse overjet and negative deep overbite. The starting point in diagnosis and treatment of this case was establishing centric relation through guiding the mandible into centric relation, rather than centric occlusion and then initial contact with the teeth occurs so an edge to edge anterior incisor contact with posterior open bite indicating pseudo Class III (Figs. 3-6).

Cephalometric analysis indicated a mild Class III malocclusion characterized by a slight mandibular protrusion (ANB = −1.5 degree, Wits = −7 mm), (Figs. 7-8).

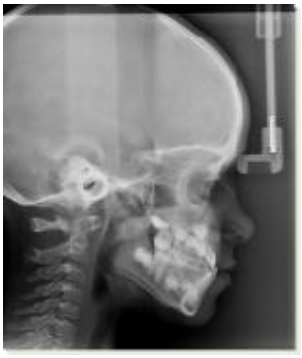

Fig. 7. Lateral cephalometric radiograph

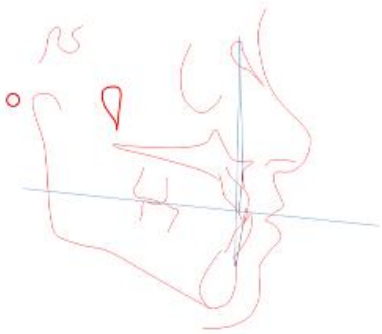

Fig. 8. Cephalometric analysis- pretreatment

2.2 Treatment Objectives

1. Forward movement of 11 maxillary incisors
2. Eliminate functional shift and mandibular displacement
3. Enhance normal lip profile
4. Achieve Class I canine relationship
5. Achieve ideal overjet and overbite
6. Improve facial profile
7. Establish good interdigitation.

2.3 Treatment Plan

The treatment plan consisted of fixed orthodontic treatment by using protrusive arch wire for the forward movement of 11 maxillary incisors without raising the bite.

2.4 Treatment Alternatives

Treatment alternatives included several different appliances, both fixed and/or removable, with heavy intermittent forces (inclined bite-plane, tongue blade), or light-continuous forces (removable appliance with auxiliary springs).

2.5 Ethical Dilemmas of the Case

There are two types of ethical dilemmas: one of them is an “absolute” or “pure” ethical dilemma, and only occurs when two or more ethical standards apply to a situation but are in conflict with each other. There are some complicated situations that require a decision, but may also involve conflicts between values, laws, and policies. Although these are not absolute ethical dilemmas, we can think of them as “approximate” dilemmas.

In the current case, the two types are present:

I- The conflict between the orthodontist’s interests of the child and the need to respect parental autonomy (Absolute Ethical Dilemma, Autonomy versus Beneficence).

II- Her mother has doubts and misgivings about the effectiveness of orthodontic treatment and is reluctant to begin treatment at this age (Approximate Ethical Dilemma, Non Maleficence versus Honesty).

2.6 Ethical Commentary on the Case

In this case, orthodontic intervention was a necessity in order to enhance a positive attitude towards dental treatment in general, to improve the child’s esthetic and functional requirements for development and growth, and to consider the psychological factor of the parents especially if they aware about their child malocclusion. The recommended treatment procedures were likely to benefit oral function, appearance, and quality of life for this child, and the burdens of treatment seemed worth the potential benefits. Failing to provide these interventions would delay attaining these benefits, and would almost certainly lead to a more extensive procedure at a later date. Timely orthodontic treatment was considered the best treatment for this child, and these procedures were medically indicated.

In spite of the recommendations, the mother had feelings of doubt and apprehension about the outcome and consequences of the procedure. She was annoyed, frustrated, and continuously complained that she was not entirely convinced of the soundness of this interference. She was utterly confused about comments from other orthodontists who had previously persuaded her that treatment at this time would be useless, and that the treatment costs would be a problem. Consequently, from an ethical point of view, it was decided that the treatment of this case (which had progressive orthodontic discrepancy) would be carried out. The benefits and risks of interference, as well as the alternative treatment plans were discussed with her mother, who refused to pay till the results were achieved. Everything considered, it was unwise to leave the child untreated due to the potential developmental and psychological consequences that had been illustrated for her mother. It is worth mentioning that this case had been treated previously by another orthodontist with a chin cup for one year without benefit, as her mother had mentioned accordingly.

In conclusion, every case presents an ethical question and has its ethical features, so photos of this case were added to the case findings and results in order to provide real evidence, and to more effectively support the idea of discussing a case with ethical dilemmas.

2.7 Treatment Procedure

Treatment started using bondable tubes placed on the buccal surfaces of the upper first permanent molars on both sides, with bondable buttons placed on the labial surface of the upper central incisors. Then the placement of upper rectangular Niti arch wire (.016 x .022 inch protrusive arch wire) was customized to the arch form of the patient. A gable bend was made mesial to the bondable tubes on the first permanent molars. The exposed part of an arch wire was coated with a sleeve to prevent irritation to the cheeks. After these placements, all the bondable buttons were tied with protrusive arch wire by using an auxiliary 0.010 stainless steel round wire ligature (Figs. 9-10).

Two weeks later, the bondable buttons were removed and replaced by brackets (slot 22) which were placed on the labial surface of the upper central incisors, in order to position them in the correct situation.

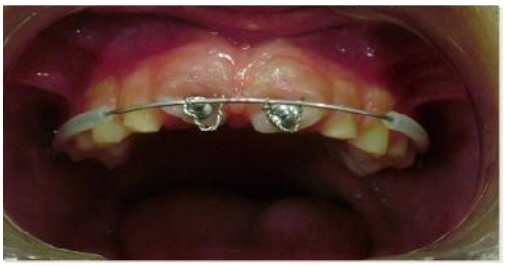

Fig. 9. Intraoral view of protrusive arch wire

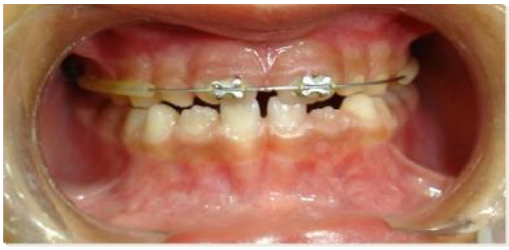

Fig .10. Intraoral view of protrusive arch wire

After carrying out four weeks of orthodontic evaluation of the retroclined upper central incisors, which was orthodontically adjusted, the patient could bite in the present situation due to the Class I canine relationship. The patient presented a normal overbite and overjet, and the midlines were coincident. The total treatment time was four weeks and the appliance was removed at the end of the fourth week (Figs. 11-13).

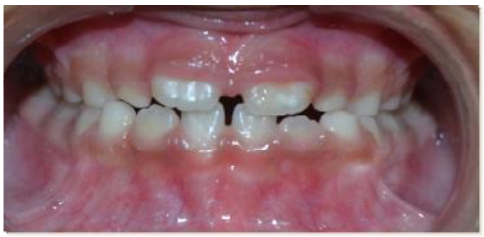

Fig. 11. Intraoral view-post-treatment

Final superimpositions showed improvements in ANB and Wits values (+1 degree and −1 mm respectively). The slight maxillary incisor protrusion coupled with the clockwise mandibular rotation produced an overall improvement of the patient's aesthetic appearance (Figs. 14-16).

3. DISCUSSION

As is true in any profession where every treatment decision has an ethical component, the final decision regarding orthodontic patient care remains primarily in the hands of the treating

orthodontist. It is important that the orthodontist provides the patient with every piece of pertinent information relating to the treatment, such that the orthodontic patient has as much influence in the decision making process as possible [15].

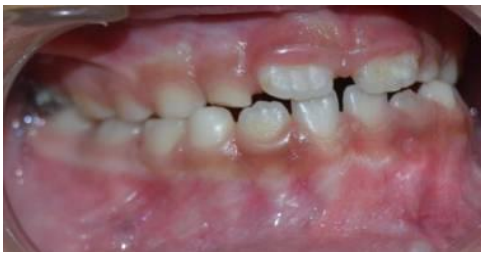

Fig. 12. Right side-intraoral view

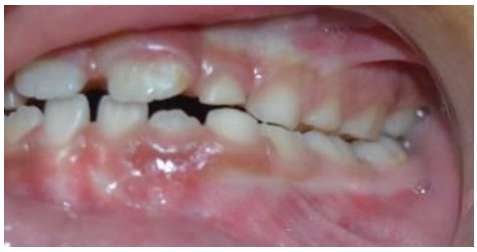

Fig. 13. Left side-intraoral view

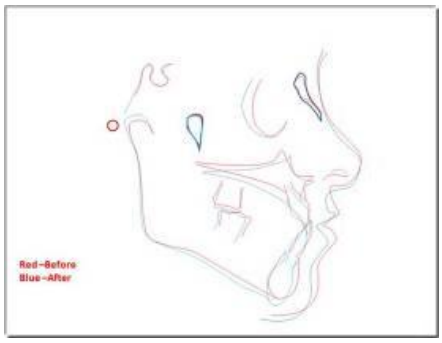

Fig. 14. Cephalometric superimposition

Fig. 15. Lateral profile view- post treatment

The presented case highlights an important exception to honoring *patient autonomy*, regularly regarded as one of the highest moral ends in medical and dental ethics. It further highlights the careful, reasoned *decision-making* we must demonstrate as orthodontic providers, as we ultimately wish to do the best for our orthodontic patients and our profession.

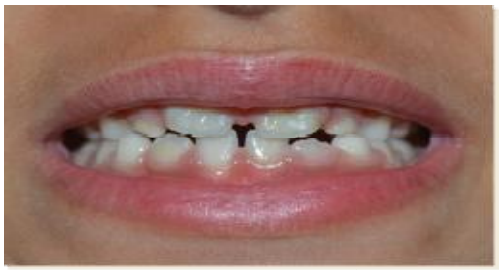

Fig .16. Frontal-extraoral view

One of the most effective methods for decision making in the dental treatment process is the ACD Test. It is comprised of three steps: Assess, Communicate, Decide. Each step is deeply rooted in the ethical guidelines set forth by the ADA.

- The first step, Assess, asks such questions as: is it true, is it fair, is it accurate, and is what I am doing legal?
- The second step, Communicate, questions whether the dentist is making an informed decision by asking such questions as: have I listened, have I informed the patient, have I explained the outcomes, and have I presented alternatives?
- The third step, Decide, focuses on the dentist and his or her ability to perform the treatment by asking such questions as: is now the best time, is it within my ability, is it in the best interest of my patient, and is it what I would want for myself?

The answers to these questions should lead to the best and most ethical decision for the patient's treatment and should be utilized when faced with an ethical dilemma [15].

In relation to the assessment of the ethical aspects of a case, the initial step is to have a clear view of the medical indications. This includes the benefits and/or burdens of possible interventions, as well as the consequences of no treatment [16]. The following step is for the orthodontist to respect the patient's family's autonomy about treatment choices, although not without considerable misgivings about whether or

not the child's best interests would be served by this course of action. Considering the elective nature of the interventions, the child would not be in any grave or immediate danger if the interventions were not provided [17].

Respect for patient autonomy is another cardinal ethical principle "under this principle" the ADA guidelines state, "the dentist's primary obligations include involving patients in treatment decisions in a meaningful way, with due consideration being given to the patient's needs, desires and abilities. The dentist should inform the patient of the proposed treatment, and any reasonable alternatives" [4]. This discussion should also include the likely outcomes without any treatment. The backbone of patient autonomy is the doctrine of informed consent, which states that all interventions require the free informed consent of the competent patient. When the patient is a child and deemed incompetent due to age, moral and legal decision-making authority rests with surrogates, usually the parents [18]. Parents have considerable latitude in the exercise of this authority, but their authority is not unlimited [16]. Parents must consider the best of interests of the child. The medical and dental team must also formulate plans with the child's best interests in mind, and hold these as a reality check on family decision making [19].

The best interests standard includes what a reasonable person might choose under similar circumstances [16]. This is in contrast to the situation with adults whose decision must be respected, even when they do not seem to be in the adult's best interests.

Ethical problems in this case arose from conflicts between the orthodontist's interests of the child and the need to respect family autonomy, and between the orthodontist's desire to respect community-based care and the need to advocate for the best interests of the child. In the current case, it was felt that allowing the parents to exercise their autonomy might not be in the best interests of their child. The important question to ask is if the family neglected to provide this care for the child.

These problems should be understood in relationship to underlying ethical principles of beneficence, respect for patient autonomy, and the special requirements of decision making for children. Review of these principles in the context of specific clinical situations can help orthodontists clarify their obligations in these cases [17].

Every medical situation is influenced by the larger issues of culture, social relationships, and financial concerns, and these factors inevitably influence patient care and treatment decisions.

Why did the family have difficulty with treatment plans? There could be multiple reasons for this, including a lack of understanding of the importance of the treatment, and the costs of care and travel. The family appeared to be in agreement with the recommended the treatment plan, although they did not carry it out. Why? Had a family member had a bad experience with dental or orthodontic treatment? Were there other social or cultural factors impacting their attitude toward dental care? Did this fit into a pattern of neglectful and/or abusive care taking for this child? Were they struggling with significant family dysfunction due to marital conflict, domestic violence, or substance abuse? These and related issues should be explored [17]. In all clinical work, the orthodontist should carefully outline indicated treatments, including their benefits and burdens as well as the consequences of no treatment. Information should be shared in an open fashion, allowing patients to participate in the decision-making process. In the case of children, this information must be shared with the parents, but should also be shared with the child as he or she matures [17].

4. CONCLUSION

Professionalism emphasizes profession as a correction to commercialism, not to commerce or markets. It is built on, and prioritizes, professional ethics over personal self-interest, business and organizational systems, or any other ethic.

The ethical traditions and codes of conduct of medicine and dentistry require orthodontists to act in the interest of their patients regardless of financial arrangements, and even, at times, with risk to themselves. In the case of children, this interest in the patient becomes even more pronounced and may conflict with the orthodontist's interests to respect the wishes of the patient.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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