

AVANTGARDE IN PAEDIATRIC DENTISTRY

Child/family-oriented approach: the teeth come after

ABSTRACT

Background The aim of this paper is to promote reflection on the dentist's approach to the dental care of young patients, considering not only their oral care needs, but also the management of their behaviour, that is intrinsic to their life needs and to those of their families.

Case reports This approach to dental care management stems from a thorough evaluation of the patient, the reason for dental visit, whether the child had previous dental visit(s), which might not have been positive, the family involvement and the emotional characteristics of the child and their parents. We should design a progressive customized path, sometimes starting only from secondary prevention in order to "comfortably" avoid the worsening of a given clinical condition, stimulate a concomitant positive behavioural response of all parties involved, until the child and their family are ready to take the next step, in terms of integrated restorative dentistry and/or paediatric orthodontics, where and when needed.

Conclusion "The teeth come after" means that dental and oral care of the children may not be achievable goals unless we first address their wellbeing and that of their families, and that sometimes "the perfect is the enemy of the good", especially when we incorrectly consider only the clinical outcome. In this scenario, psychological skills and clinical feelings, comfort techniques, technologies, new materials and a more "medical less" surgical approaches are the bases for a child/family-oriented approach.

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KEYWORDS

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Introduction

The world of paediatric dentistry must change, focusing more on the little patient as a whole, not just his teeth. Profound changes have taken place as far as procedures, processes and relationships with the child and his family. This is a very delicate aspect in paediatric dentistry and it is therefore crucial to place the child at the center of attention, including their overall wellbeing, from the first moment we take care of them [Cosi et al, 2022]. The way of communicating with the child's parents regarding the proposal of various types of services or solutions to offer to answer their questions has changed, so that the relationship with mothers and fathers has become central. Thanks to easier access to information, today it is perhaps paradoxically more difficult for parents to orientate themselves, and they can be easily disoriented. Today, more than in the past, professional services require a close collaboration between doctor and patient both regarding the therapeutic goals and the methods for achieving them. This applies not only to the management of complex issues but especially the simpler ones, which are the basis of the promotion of oral health, starting with the right information. This is even more true when the focus is not only the health but the overall wellbeing of the child, including their quality of life within their families, in order to obtaining the collaboration required for the therapeutic success.

The co-responsibility of the child, based on the individual age and the ability to socially relate with others, and of the parents starts from an understanding of the child's expectations and needs, which can be translated into a proper treatment plan. Those professionals who have understood the importance of this evolution, adapting to the different needs of their patients, are applying the "rule of dialogue, sharing and priorities" to establish an empathic relationship within the families, engaging them beyond the oral health.

Clinical reports

Still too often we observe cases like that of Lucrezia, a 3,8 year-old girl, wandering between different dental offices, looking for a solution to manage her ECC [Colombo et al, 2019], associated to EH (Figs. 1a-1c) [Rodd, 2021]. Unfortunately, the common response was "she's too young to be treated in the office, so the only option is general anaesthesia". She came to our attention after a recent negative experience with the family's general dentist, who had tried to cure her using local anaesthesia, without any use of comfort technique, which made her uncooperative [Arcari and Moscati, 2018]. We welcomed Lucrezia in our office, after having sent a video to the family illustrating the environmental and our behavioural approach to children, based on Spa-Inspired Oral Care concept [Beretta et

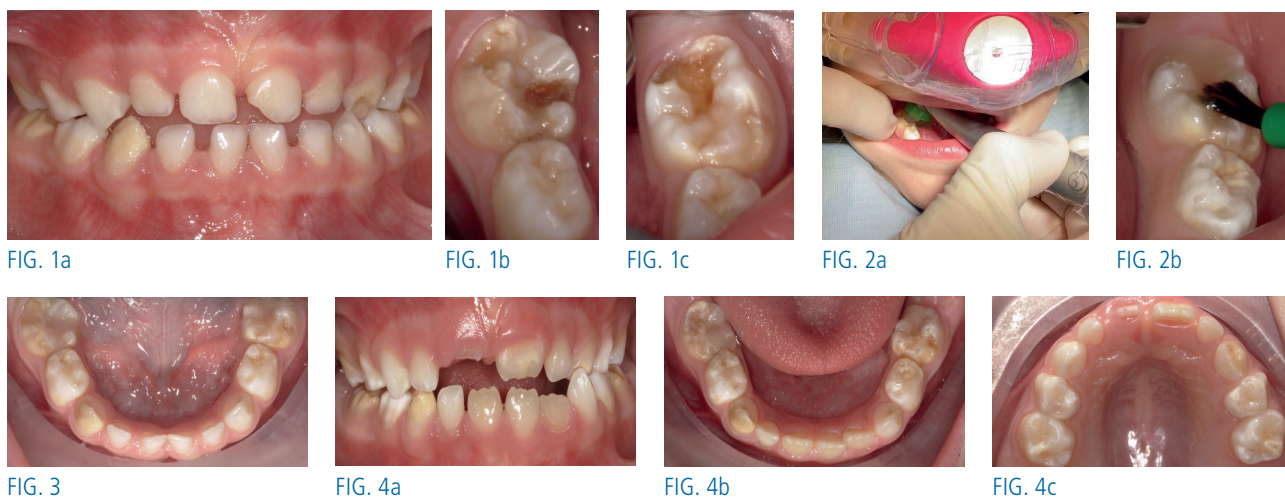


FIG. 1a-1c Lucrezia, 3.8 years old, with EH and erosive lesions on 7.5 and 8.5. FIG. 2a, 2b First cycle of paediatric oral hygiene approach with ozone, remineralising gel application and screenshot of the engaging video shared with parents regarding the clinical-behavioural management setting. FIG. 3 Restoration of teeth 7.5 and 8.5 with SCR, ozone and bioactive materials, after the first cycle of paediatric oral hygiene and 2 maintenance sessions. FIG. 4a-4c Follow-up 2.6 years after the first clinical approach.

al, 2022]. The clinical examination revealed that all the affected teeth were vital and that the pain – especially on teeth 7.5 and 8.5, those with more extensive erosive dysplastic lesions – was triggered by meals and sweet or cold foods. Using video, images and scientific papers we explained our treatment plan, and presented an informed consent to the family. Our integrated approach consisted in oral and food hygiene instructions and a cycle of 4 paediatric professional oral hygiene sessions (once a week), with no aerosol protocol [Casamassimo, 2020] avoiding rotary instruments and ultrasound, associated with relative analgesia, ozone-therapy [Beretta and Federici Canova 2017 and 2021] and fluoride remineralising gels applications (Figs. 2a, 2b). This allowed us to definitively arrest the evolution of erosive lesions on lower molars, stabilise the integrity of the residual dental tissues of all the teeth and have a fundamental role in her peaceful cooperation, testing her buccality (or the child capability to tolerate the dental treatment). This first therapeutic step, shared with the presence of the mother in the first two operating sessions, was followed by two maintenance sessions, after 1 month and after 2 months respectively. We then informed the parents that Lucrezia would be ready for restoration of teeth 7.5 and 8.5 in two clinical sessions, using the minimum intervention approach with selective caries removal, ozone-therapy, and bioactive materials [Lardani et al., 2022] under relative analgesia, to increase child's comfort

and improve our operational efficiency (Fig. 3). Afterward, we planned a quarterly maintenance plan of professional paediatric oral hygiene for 2.6 years, since the eruption of the first permanent teeth, which appeared to have MIH (Figs. 4a-4c). At that point, the best conditions (especially behavioural) were in place to plan and promote an integrated therapeutic approach involving a paediatric orthodontic treatment to correctly guide the facial growth (Figs. 5a, 5b).

The second case we present is that of Vittoria, a sweet 7-year-old girl with special needs with Pallister-Killian syndrome [Izumi et al., 2020] and late dental exchange, with recent treatment failure due to difficult management of EH and MIH lesions sensitivity to thermal stimuli, hypertrophy of the tongue and very limited mouth opening. Vittoria also presented a skeletal Class III malocclusion with anterior crossbite (Figs. 6a-6c). Due to these conditions, we were able to acquire occlusal images only by intraoral scanner (Figs. 7a, 7b), because it was impossible to take pictures with the mirror. We treated Vittoria using the same approach adopted for Lucrezia, suited to her as a person, not only for her teeth, in order to progressively increase the integrity of the teeth affected by dysplasia, eliminate thermal sensitivity and promote and obtain confidence in us and in herself. In this way we were able to proceed in a second time with the first modular restoration of the tooth (made in different step following the completion of the eruption) under

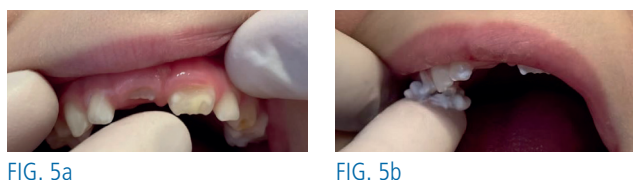


FIG. 5a, 5b Screenshot of the videos shared with parents to illustrate - at the end of the professional oral hygiene session - the start of dental exchange, the presence of MIH and how to apply CPP mousse at home. FIG. 6a-6c Intraoral images of Vittoria, a 7 year-old special need patient, with Class III malocclusion and MIH.





FIG. 7a

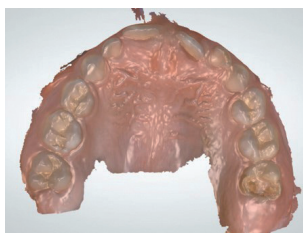


FIG. 7b



FIG. 8a



FIG. 8b

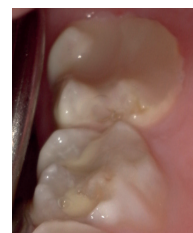


FIG. 8c

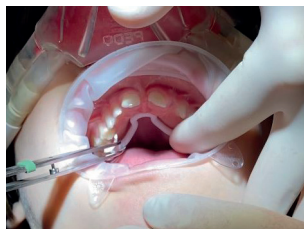


FIG. 9

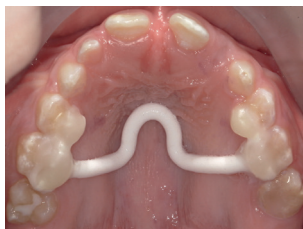


FIG. 10a



FIG. 10b

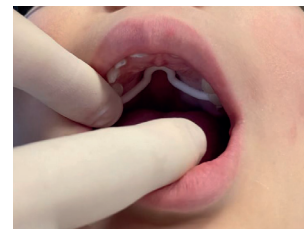


FIG. 11

Fig. 7a, 7b. Occlusal images from intraoral scanner due to the impossibility to use the mirror. Fig. 8a-8c. Minimum restoration intervention of tooth 4.6 and modular prevention/restoration of tooth 3.6 in two steps following its eruption, to manage integrity and sensitivity, under relative analgesia. Fig. 9. Screenshot of the video used to share with the parents that, after one year from the first visit, Vittoria was ready to start paediatric orthodontic treatment; it illustrates the possibility and tolerance of Vittoria to position a ZeroExpander for crossbite correction Fig. 10a-10b. ZeroExpander cemented on the deciduous teeth of Vittoria, with bioactive resin cement and adhesive procedure, complete intraoral picture of the lower arch (done after one year) and positive environmental condition during clinical session under relative analgesia. Fig. 11 Screenshot of the video made at the end of palatal expander application, to share and record all the consideration and information to parents regarding the start of orthodontic treatment and the excellent positive behaviour of Vittoria.

relative analgesia (Fig. 8a-8c), selective removal of the affected tissues, ozone and bioactive materials [Wambier et al, 2023]. During the periodical oral hygiene and preventive sessions (every 3 months) — every time under relative analgesia assisted by a positive habitat where entertainment to the child is provided, we continued to test her buccal compliance, also trying to place an expansion device, the ZeroExpander [Beretta et al., 2021] similar to the one we were initially going to use for her, in order to define and share.

By using a live video, shared with the parents, we informed the parent (Fig. 9) on the best timing to start the paediatric orthodontic treatment for the Class III malocclusion, an information that we obtained after one year since we had known Vittoria and her family (Figs. 10a-10d).

Discussion and conclusion

Paediatric dental treatment can be difficult in case of event of reduced collaboration of the child, due to special dental or medical conditions. The child's fear is normal in case of unknown treatment or previous negative medical/dental experiences that may have conditioned them in some way. The mouth plays a decisive role in the psychological development of the child, who uses it very early to explore the world around him [Paglia, 2019]. If we first ask the child to open the mouth, having unknown or pointed instruments in our hands, it is normal that he/she may be scared. Not every child is alike and the approach with them must be personalised. It is our duty to recognize any behavioural issue and manage together with families and caregivers, using our best psychological skills and clinical judgement, comfort techniques, technologies, clinical videos to show the family the behavioural improvement of the child, new materials and a more "medical less" surgical approach, that are the basis from which to start for a child-family oriented approach. It should also be noted that, except

for emergencies (i.e. dental trauma) "the teeth come after" because we have to start from the Child/Family, their needs and complexity, setting up a long-term treatment plan (especially for severe malocclusions and dysplasia conditions), based on a clear, solid and evident sharing of the progressive goals to be achieved and achievable.

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