Case Report

Dental Management of a Patient with Special Health Care Needs

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Received 4 December 2020; Revised 17 January 2021; Accepted 28 January 2021; Published 4 February 2021

Academic Editor: Kevin Seymour

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Patients with special health care needs (PSHCN) may have an increased risk of oral disease throughout the course of their life and require particular delivery of dental care due to their medical condition or limitations [1, 2]. These patients also need additional supports to maintain their oral health and access oral health care services [3]. Oral diseases may have a direct and critical impact on their health and quality of life [1].

Cornelia de Lange Syndrome (CdLS) is a rare syndrome of multiple congenital anomalies with unknown aetiology, characterised by distinct clinical characteristics such as facial appearance, prenatal and postnatal growth deficiency, feeding difficulties, psychomotor delays and problems, behavioural problems, and anomalies of the extremities. The diagnosis of this syndrome is mainly clinical [4–6]. The most common craniofacial features are microcephaly, short neck, low anterior and posterior hairlines, synophrys, long curly eyelashes, downturned angles of the mouth, high arched palate, micrognathia, macroglossia, delayed tooth eruption, and partial anodontia [5, 7–9].

The purpose of this case report is to endeavor further guidance for dental practitioners relating to the dental management of patients with CdLS which is classed as PSHCN due to physical, behavioural, cognitive, and emotional impairment.

1. Introduction

Patients with special health care needs (PSHCN) may have an increased risk of oral disease throughout the course of life [1] and require particular delivery of dental care due to their medical condition and limitations [1, 2]. These patients also need additional supports to maintain their oral health and access oral health care services [3]. Oral diseases may have a direct and critical impact on their health and quality of life [1].

Cornelia de Lange Syndrome (CdLS) is a rare syndrome of multiple congenital anomalies with unknown aetiology, characterised by distinct clinical characteristics such as facial appearance, prenatal and postnatal growth deficiency, feeding difficulties, psychomotor delays and problems, behavioural problems, and anomalies of the extremities. The diagnosis of this syndrome is mainly clinical [4–6]. The most common craniofacial features are microcephaly, short neck, low anterior and posterior hairlines, synophrys, long curly eyelashes, downturned angles of the mouth, high arched palate, micrognathia, macroglossia, delayed tooth eruption, and partial anodontia [5, 7–9].

2. Case Report

A 14-year-old female, brown skinned, had a clinical diagnosis of CdLS. She had common craniofacial features for CdLS such as microcephaly, short neck, synophrys, arched eyebrows, long curly eyelashes, downturned angle of the mouth, high arched palate, micrognathia, microodontia, delayed tooth eruption, and partial anodontia. The patient’s mother sought the dental service at the Basic Health Unit (UBS) in Sacramento, Brazil. However, there were no specialized dentists that treat PSHCN. Therefore, the patient was referred to our Pediatric Dental Clinic at University of Uberaba, Uberaba, Brazil. In the first appointment, we tried to talk and persuaded the patient to open her mouth, although we did not succeed due to her aggressive behaviour. After the first
attempt, we proposed to use physical restraints to undertake
the treatment, though her mother did not agree with it. Owing
to the patient’s behaviour, we were not able to conduct any
intraoral examination as well as radiographic examination.
Thus, we referred her to the Mário Palmério University Hos-
pital, Uberaba, Brazil, for dental treatment under general
anesthesia. Firstly, she underwent preanesthetic assessment,
such as complete blood test and chest X-ray. Thus, she had
an appointment with an anaesthesiologist who authorised
her for the dental treatment under general anesthesia.

The patient was sedated and orally intubated by the
anaesthesiologist assisted by a nurse anesthetist. A dose of
prophylactic antibiotic of cefazolin sodium (1 g), anti-
inflammatory dexamethasone (0.1 mg/kg body weight), and
analgesic paracetamol (10 mg/kg body weight) was adminis-
tered intravenously. Afterwards, the skin asepsis of the
patient’s face was realised with 2% aqueous solution of chlor-
hexidine digluconate and sterile surgical drapes were placed
on her face. We were then able to undertake intraoral exam-
ination and carry out a dental treatment plan.

We observed that the permanent mandibular right second
molar, the primary maxillary left first molar, and second molar
presented carious lesions with pulp involvement. The perma-
nent maxillary right first molar, the permanent maxillary right
second premolar, and the permanent maxillary right and left
central incisor had carious lesions extending into the dentin.
Furthermore, the permanent mandibular right central incisor
was overerupted and injured the patient’s palate (Figure 1).

Firstly, dental prophylaxis with prophylaxis paste, pum-
rice stone, and nylon-bristle brush (Prophy brush) was per-
formed to remove the dental biofilm. Secondly, the teeth
with pulp involvement and the overerupted tooth were
extracted. Afterwards, the teeth with carious extending into
the dentin were filled with resin composite (Figure 2).

Postoperatively, the patient was transferred to the posta-
nesthesia care unit where she was closely monitored and
assessed for any deterioration in her condition. The patient
was discharged on the same day, and paracetamol syrup
(10 mg/kg body weight) was prescribed in case of any pain.
The follow-up was 1 week and 6 months after, when dental
prophylaxis and topical application of acidulated phosphate
fluoride gels (APF, 1.23%) were performed. During intraoral
examination, we observed that dental restorations were clin-
ically satisfactory and an improvement in her oral health.

Initially, the management of the patient was difficult due
to her aggressive behaviour; however, after the procedure
was performed under general anesthesia, we observed an
improvement in the patient’s subsequent behaviour during
dental care. Furthermore, this improvement was also reported
by her mother. There were no complications during the pro-
posed dental treatment. Unfortunately, we could not keep fol-
lowing the patient due to difficulties to pay for travel from her
town to our dental clinic. Therefore, we referred her back to
the dental service at the Basic Health Unit (UBS) in her town.

3. Discussion

The patient’s mother sought a dentist at the UBS in her city;
however, it was not possible to perform the dental treatment,
as there was not a qualified dentist to provide dental care to
patients with special health care needs. The dentists must
have specialized knowledge and skills to attend to PSHCN,
as these patients may have medical conditions that require
extraordinary dental care [10]. Providing access to dental
care services to these patients is essential to maintain
adequate oral health as they have an increased risk of oral
diseases throughout their life, and these oral diseases may
directly affect their quality of life and general health [1].

Dentists should consider the patient’s behaviour, because
it may complicate the delivery of dental care. They should
attempt verbal conditioning for permission to undertake
the dental treatment, trying to gain the patient’s cooperation
in the least restrictive manner [11, 12]. If this fails, the
dentists should consider using physical and/or chemical
restraints. However, before using any restraints, the dentists
must obtain consent from the patient’s legal guardian and
choose the least restrictive technique that will allow the
dentist to provide dental care safely [11, 13]. The last option
is to refer the patient to undertake dental treatment under
general anesthesia [11, 12]. In this case report, after the first
unsuccessful attempt at verbal conditioning, the mother did not grant permission for the use of physical restraint. However, it was not possible to perform sedation in the outpatient setting, due to the complexity of the treatment to be performed. Therefore, the dental treatment was performed under general anesthesia, thus achieving the successful accomplishment of the proposed dental treatment.

4. Strength and Limitation

The strength of our case report was that our dental clinic works together with the university hospital to provide free multidisciplinary care to all our patients with special health care needs. Some limitations should be nevertheless considered. Firstly, we could not perform dental X-rays and we lacked clinical information about tooth development and tooth anomalies and if there were any cysts or tumours in jaw bones. Furthermore, we were not able to follow-up the patient for more than 6 months due to her family’s financial situation.

5. Conclusion

Patients with special health care needs require a specialized approach and care owing to their health condition and behaviour. Managing and shaping behaviour of such patients are crucial to delivering high standard dental care. These patients are at higher risk of oral and dental problems and also have lower levels of hygiene practice, such as toothbrushing and dental flossing. Therefore, dental professionals play a crucial role in providing dental care and in maintaining a good level of oral health in these patients.

Data Availability

No data were used to support this study.

Conflicts of Interest

All authors declare no conflict of interest.

References