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Providing Dental Care Under General Anaesthesia for People with Autism

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Abstract

Dental management for people with Autistic Spectrum Disorder (ASD) can be challenging. However, with the right information, facilities, and training, the dental journey can be smoother and successful. This paper discusses some of the challenges in access and providing dental treatment for people with ASD and describes a case study of a patient in pain requiring dental treatment under general anaesthesia over a period of time.

Keywords: Autistic spectrum disorder; Dental treatment

Introduction

People with Autistic Spectrum Disorder (ASD) are at a higher risk of dental disease than the general population [1].

This can be due the challenge of accessing a dentist, oral hygiene limitations, long term medication related xerostomia or gingival hyperplasia, the use of sweet foods as behavioural rewards, dietary limitations or rigid food faddism [2].

This paper discusses a case report describing an autistic patient who required general anaesthesia for dental care and the adaptations that were made.

Access to dental care for patients with ASD: Challenges

Poor dental attendance: People with autism may show poor dental attendance for various reasons. A resistance to change in routine makes it difficult for people with ASD to accept a significant change in their daily routine. This, together with having to face new surroundings and staff, possible long noisy journeys and busy waiting areas, can make the whole experience daunting. Therefore, it is important to provide stability and familiarity. This can be done by visiting the dental practice prior to any planned dental appointment, creating a routine that can be followed every dental visit and sharing important information with the dental team regarding the patients likes, dislikes and communication needs. This information can be communicated via a 'hospital passport' document [3].

The use of a 'social story book' is useful. This shows pictures of the stages involved in going to visit the dentist and having treatment carried out [4].

General and dental anxiety: People with ASD may experience a higher level of dental anxiety compared to the general population [4]. This can be due to communication difficulties, sensory stimulation, daily routine changes, or generalized dental anxiety from fear of drill, needles etc. Dental anxiety can be managed through behavioural techniques and / or pharmacological techniques.

Sensory stimulation: Sensory overload can occur in the dental setting from various sources. For example, bright dental lights, the noise of dental equipment such as the drill, the feel of cold instruments in the mouth or the smell or taste of dental materials. Sensory overload can then lead to a meltdown or challenging behaviour [2].

Communication: People with ASD may present with communication challenges in the dental setting such as difficulty in understanding information, communicating needs, explaining dental pain, or giving informed consent for treatment.

This highlights the need for the dental team to have appropriate awareness and training in communication needs for people with ASD. Close liaison with patient's family and careers can help prepare and plan for dental visits.

Dental staff knowledge and training: An integrated care pathway achieved through liaison with the patient, family, care workers, and medical and dental professionals is vital in providing dental care for patients with ASD [5].

Dentists with training in assessing capacity for consent, and providing behavioural and pharmacological anxiety management techniques such as conscious sedation, are necessary. Some patients with ASD cannot cope with treatment under local anaesthetic alone. This may be due to anxiety, or challenging behaviour. Trying to find a dentist that has the appropriate training or a dental service where general anaesthesia is provided, can be difficult and limit access to dental care for these patients.

Oral hygiene limitations and Dietary factors: Patients with ASD may have poor oral hygiene due to limited cooperation and understanding or due to the sound, feel or taste of brushing teeth being uncomfortable for them. This can increase their risk of caries and gum disease which can be further complicated by rigid food fads. Particularly if these food fads are of sticky foods or have a high sugar content [6].

Furthermore, some people with ASD can be on medications which cause a dry mouth. This further increases the risk of caries.

The case report that follows describes the dental journey of a patient with autism from assessment through 3 courses of treatment over a period of time, and the challenges and solutions that were discovered through this.

Case Report

In September 2012, the Community Dental Service referred a

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19 year old (MB) with a severe learning disability and epilepsy to the special care department of a central London teaching hospital. The referring dentist suggested that he was not suitable for day case general anesthesia due to his epilepsy. At the assessment appointment, the diagnosis of autism was added by his father. The patient's last seizure had been 6 months previously. The patient was on the following medication; Sodium Valpoate 400mg twice daily and Cetrizine 5mg daily taken in liquid form as MB does not swallow tablets. In the surgery environment, MB became very distressed and noisy, exhibiting challenging behaviour such as hitting his head against the wall.

There was a dental history of pain on the lower left side of the patient's mouth, but examination was not possible as he would not sit on the dental chair. Marginal gingivitis was obvious and his parents reported a broken tooth at the back of his mouth. Extra oral radiographs were taken and revealed a lower left carious molar. It was noted that the patient's wisdom teeth were present. Previous dental treatment as a child had been under general anaesthesia with oral premedication and his father had provided physical restraint to aid with this.

Capacity testing found that MB lacked capacity and all those involved in his care took part in a best interest meeting. It was decided that treatment under general anaesthesia was indicated. It was planned for him to arrive early when the day case theatre suite was less busy and all staff was informed of the need for him to be seen quickly. Other adaptations included making a side room close to theatres available and a decision made not to attempt pre-operative blood pressure. At this time, the theatre list was located on a ground floor close to the front door with parking right outside.

On arrival, MB was given 30mg of midazolam orally. This was held in his mouth for a few minutes, and then spat out on the floor. 12mg midazolam was given intranasal which made MB sleepy and he lay down on a trolley. Inhalational induction of anaesthesia was carried out with Sevoflurane/Oxygen/ Nitrous oxide followed by intravenous cannulation. Treatment included full examination, plaque and calculus removal, restoration of upper first molars, and extraction of both lower second molars. Recovery was straightforward and he returned home with his carers. MB was discharged back to the Community Dental Service for continuing care.

In January 2014, a new referral from Community Dental Service was received. MB appeared to be in pain with an altered sleep pattern. An assessment appointment was not made, instead he was booked in for treatment under general anaesthesia to limit the number of appointment and the stress of the journey. Theatres had now moved back to their usual location on the 23rd floor with lift access. Unfortunately, MB and his carers arrived late and the theatre suite was busy with other patients.

An attempt at intranasal midazolam was unsuccessful due to MB pushing the dentist away, and he refused to drink oral midazolam. He became more agitated, noisy and difficult to manage. At his father's suggestion, radiographs were taken which showed no obvious caries. No further treatment under general anaesthesia was planned and a follow-up phone call confirmed that the pain settled and his sleep pattern returned to normal.

Another referral was received in March 2017. The local dentist had managed to carry out a brief examination and could see a fractured tooth on the upper right hand side. His carers felt MB was in pain. In an attempt at acclimatisation, MB was seen for assessment on the 26th floor. Examination proved difficulty but a carious upper right premolar was seen. Following a best interest meeting, a decision was made to carry out treatment under general anaesthesia. The plan was for MB to be first on the list and for him to arrive early before other patients. He would then be assessed by the anaesthetist while sitting in his father's car and would be distracted with the use of pre-loaded videos on a tablet device brought from home. On the day, MB arrived as planned and sat in the car on the ground floor. On his carers suggestion, midazolam was mixed with his sodium valproate in his own cup, but unfortunately the two drugs did not mix well and precipitated. Therefore, midazolam was then taken to the car where MB drank it from his own cup. After 10 minutes, he was persuaded to leave the car by his father and he walked to the lift which had been held by the security team. He was accompanied by his carers, the learning disability nurse and the anaesthetic team who brought oxygen and ventilation equipment. A wheelchair was on standby. MB came straight into theatre and accepted an inhalational induction of anaesthesia. Full mouth periapical radiographs were taken, followed by dental treatment which involved extraction of upper premolar roots and upper wisdom teeth, and restoration of six other teeth. MB recovered well and returned home later that morning.

Discussion and learning points

This case report provides insight into the challenges and possible solutions in the dental management of a patient with autism. It highlights the need for an individualized and structured approach. Each visit was different, and the importance of familiarity and the use of the patient's own comforts is stressed. For example, using the patient's own cup to take the pre-medication worked better than trying to administer the intranasal midazolam. Having the patient wait in the car rather than a noisy unfamiliar waiting room helped keep MB calm and avoided a repeat of the meltdown that was experienced at the previous visit.

Throughout this journey, it was necessary for staff to be trained in all treatment modalities, and to be flexible and competent to manage MB. A close liaison with the patient's family and carers was essential as they are the experts on the likes and dislikes of MB and how to manage him in different situations.

Reasonable adaptations were made through his dental treatment such as ensuring the patient was first on the list, keeping a lift ready for MB which was quiet, and allowing MB to be surrounded with people that he was familiar with. On his second visit when some of these adjustments were not possible, it contributed to MB having a meltdown.

Compromise in treatment and a flexible approach was required throughout. This case report summarizes the challenges, some solutions, and the need for reasonable adjustments, an individualized flexible approach, trained staff, and close liaison with the patient's family and carers, to enable a positive and effective dental journey for a patient with ASD.

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