

# The Dental Management of Pediatric Patients Diagnosed with Myasthenia Gravis: A Case Report

SAAD M. ALMANEA, BDS, SBPD, MMED<sup>1</sup>, MASHAEL A. ALHADLAQ\*, BDS<sup>2</sup>, NOURA M. ALBUQMI\*, BDS, SBPD<sup>3</sup>

<sup>1</sup> Consultant, Pediatric Dentistry Department, (National Guard Hospital), Riyadh, Saudi Arabia

<sup>2</sup> Resident, Saudi Board of Pediatric Dentistry, Pediatric Dentistry Department, (National Guard Hospital), Riyadh, Saudi Arabia

<sup>3</sup> Assistant Consultant, Pediatric Dentistry Department, (National Guard Hospital), Riyadh, Saudi Arabia

## INTRODUCTION

Myasthenia gravis (MG) is a rare autoimmune disorder characterized by muscle weakness, and it is caused by antibody-mediated blockage of neuromuscular transmission to skeletal muscles.<sup>1</sup> The incidence of MG is 4.1 to 30 cases per million person-years.<sup>2</sup> In Saudi Arabia, the annual incidence rate of MG was 5.6 per million person-years.<sup>3</sup> The diagnostic gold standard of MG is the presence of serum acetylcholine receptor antibodies.<sup>4</sup> In regards to treatment modalities, they are anticholinesterase drugs, immunosuppressive drugs, corticosteroids, surgical thymectomy, plasma exchange (PLEX) and intravenous immunoglobulin (IVIG).<sup>5</sup>

In dentistry, providing routine dental treatment of MG patients is challenging. Review of the medical history and consultation from the treating physician is mandatory. Particularly in the use of local anesthesia, ester local anesthetic is inactivated by plasma cholinesterase, so in patients with MG receiving anticholinesterase medication, the effect of local anesthesia will be prolonged, leading to toxicity; hence, amide local anesthesia is preferable. Lastly, providing convenient, early morning appointments and a stress-free environment are recommended to prevent MG crisis.<sup>4</sup>

## OBJECTIVES

To raise awareness about MG among dentists and to discuss the dental management and precautions that need to be taken prior to dental procedures.

## CASE REPORT

An 8-year-old Saudi girl was referred from her neurologist as a known case of MG for dental care at National Guard Hospital in Riyadh. She is allergic to 38 medications, which include but are not limited to penicillin, erythromycin, clindamycin, sulfa drugs and lidocaine.

## MEDICAL HISTORY

**JULY 2018**

She complained of ataxia, generalized muscle weakness and had one episode of choking and needed to be admitted as a case of pneumonia, atelectasis and severe metabolic acidosis. She had two cardiac arrests that lasted for two minutes and was intubated for two weeks.

**DEC 2018**

She was diagnosed with MG and treated with Pyridostigmine. She also had, hypertension, iron deficiency anemia, resolved hydronephrosis and resolved encephalopathy.

**JAN and MAY 2019**

She had **Myasthenia Gravis Crisis**.

**DEC 2018**

She had thymectomy and was classified as ASA IV.

## CLINICAL EXAMINATION

She showed poor oral hygiene, a mixed dentition stage, multiple dental caries, tendency to anterior open-bite due to a tongue thrusting habit and an uncomplicated enamel/dentin crown fracture of the upper permanent central incisors.

## TREATMENT

Full dental rehabilitation under GA that included PFS for tooth #14, class I composite restorations for teeth #16 and #46, class IV composite restorations for teeth #11 and 21, PRR for teeth #65, 26 and 36, SSCs for teeth #64, 75 and 84, indirect pulp capping and SSCs for tooth #85 and the extraction of teeth #55 and #74. She was admitted with neurology one day postoperatively for monitoring in a high-dependency unit (HDU) as they considered her a high-risk patient. Follow-up appointments were scheduled at 2 weeks, 6 weeks, 3 months and 6 months at the dental clinic. At 6 months recall, the updated orthodontic consultation was to place a palatal crib appliance to stop the tongue thrusting habit and there was a noticeable improvement after one month.

## CONCLUSION

MG is a rare medical condition with a variable clinical presentation. Dentists should educate the families of the patient regarding the importance of maintaining good oral hygiene to reduce the risks of developing MG crisis.



FIG.1 PRE-OPERATIVE PANORAMIC VIEW RADIOGRAPH



FIG.2 PRE-OPERATIVE INTRAORAL PHOTOGRAPHS & RADIOGRAPHS



FIG.3 POST-OPERATIVE INTRAORAL PHOTOGRAPHS & RADIOGRAPHS



FIG.4 ONE MONTH POST PALATAL CRIB PLACEMENT

