

have noticed one error in the text which we apologize for: the sentence reading '1 in 16 people in the UK being currently undiagnosed' should actually read '1 in 16 people in the UK being currently diagnosed or undiagnosed'.

We appreciate the comment regarding NICE guidance and recommendation on dietary requirements as schemes such as DAFNE are extremely important tools in the management of diabetes. However, we did not cover dietary restrictions relating to quality of life in detail as we felt that it was outside of the scope of everyday general dental practice.

Thank you very much for your comments and we appreciate your interest in the article.

References

- 1 Yeung V, Chandan J. The impact of diabetes on treatment in general dental practice. *Dent Update* 2018; **45**: 120–128.
- 2 Roche EF, Menon A, Gill D, Hoey H. Clinical presentation of type 1 diabetes. *Pediatr Diabetes* 2005; **6**: 75–78.
- 3 Diabetes UK. Diagnostic criteria for diabetes. https://www.diabetes.org.uk/professionals/position-statements-reports/diagnosis-ongoing-management-monitoring/new_diagnostic_criteria_for_diabetes (Accessed 3 March 2018).
- 4 Greenwood M, Meechan JG. General medicine and surgery for dental practitioners: part 3. Management of specific medical emergencies in dental practice. *Br Dent J* 2014; **217**: 21–26.
- 5 Diabetes UK. *Diabetes: Facts and Stats, 2015*. <https://www.mrc.ac.uk/documents/pdf/diabetes-uk-facts-and-stats-june-2015/>

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Early eruption of a mandibular third molar in a 13-year-old female

Dental eruption is a dynamic and complex biological and physiological process that spans over several years and includes the formation of teeth and their migration in the jaws until they erupt in the mouth in their final functional position. Variation in the normal

teeth eruption pattern is a common finding, but significant deviation from the established norms should alert us for some diagnostic procedures to be taken for assessment of the patient health and development.

Although permanent teeth eruption is under significant genetic control, various general factors such as gender, socioeconomic status, craniofacial morphology and body composition can influence this process. Most significant disturbances in teeth emergence is caused by systemic diseases; hypothyroidism, HIV, hypoparathyroidism and syndromes such as Down's syndrome, SOTO's syndrome, to name but a few.^{1–3}

Case report

A 13-year-old female patient visited the outpatient department with a complaint of pain in the left lower posterior region during the previous 6 months. She gave the history of intermittent medication from



Figure 1. A partially erupted tooth-like structure in the third quadrant region.



Figure 2. OPG of the third molars and root formation of both the mandibular third molars near completion.

unregistered/unqualified medical practitioners for pain control.

Her dental examination revealed a partially erupted tooth-like structure in the third quadrant region which was tender on palpation (Figure 1). Her medical history was non-significant and her growth pattern was found to be normal. The father of the patient gave a similar history of early tooth eruption.

A panoramic radiograph was ordered which showed the presence of the third molars and root formation of both the mandibular third molars, which were near completion (Figure 2).

Blood investigations were normal and vital parameters were within normal range. Her menstrual history dated back one year.

Treatment was planned to remove the left lower third molar surgically, which was uneventful.

Discussion

Certain syndromes result in failed or delayed dentition as there are many regulatory mechanisms that are involved in dentition and are also active in other developmental processes.⁴

There are certain genetic disorders that affect teeth eruption. Most of them are reported to delay permanent teeth eruption, others are associated with complete failure of teeth to erupt.

Genetic disorders can be divided into disorders that affect enamel formation and/or the tooth follicle (eg amelogenesis imperfecta, Hurler's syndrome, mucopolysaccharidosis VI) and disorders that

interfere with osteoclastic activity (eg cleidocranial dysplasia, osteopetrosis).⁵

Hard tissue formation of the mandibular third molar begins at 8–10 years and enamel formation is completed at 12–16 years. Eruption is observed at 17–21 years of age with root completion at 18–25 years.⁶

Madhu has reported early eruption of permanent canines in a 7-year-old female patient.⁷ Bayrak *et al* reported in a study of Turkish children regarding timing of permanent tooth eruption that eruption tended to be earlier in females than in males, but this difference was significant only for maxillary and mandibular canines and mandibular first premolars.⁸

Disturbance of the endocrine glands usually has a profound effect on the entire body, including the dentition. Hypothyroidism, hypopituitarism, hypoparathyroidism and pseudohypoparathyroidism are the most

common endocrine disorders associated with delayed permanent teeth eruption.^{9,10}

References

1. Shaw L, Foster TD. Size and development of the dentition in endocrine deficiency. *J Pedod* 1989; **13**: 155–160.
2. Hauk MJ, Moss ME, Weinberg GA, Berkowitz RJ. Delayed tooth eruption: association with severity of HIV infection. *Pediatr Dent* 2001; **23**: 260–262.
3. Ondarza A, Jara L, Bertoni MI, Blanco R. Tooth malalignments in Chilean children with Down syndrome. *Cleft Palate Craniofac J* 1995; **32**: 188–193.
4. Wise GE, Frazier-Bowers S, D'Souza RN. Cellular, molecular, and genetic determinants of tooth eruption. *Crit Rev Oral Biol Med* 2002; **13**: 323–334.
5. Almonaitiene R, Balciuniene I, Tutkuviene J. Factors influencing permanent teeth eruption. Part one – general factors. *Stomatologija* 2010; **12**: 67–72.

6. McDonald RE, Avery DR, Dean JA. *Dentistry for the Child and Adolescent* 8th edn. Oxford: Mosby, 2004: p177.
7. Madhu S. Early eruption of permanent canines. *Indian J Dent Res* 2012; **23**: 428–430.
8. Bayrak S, Sen Tunc E, Tuloglu N, Acikgoz A. Timing of permanent teeth eruption in Turkish children. *J Clin Pediatr Dent* 2012; **37**: 207–211.
9. Bedi R, Brook AH. Changes in general, craniofacial and dental development in juvenile hypothyroidism. *Br Dent J* 1984; **157**: 58–60.
10. Loevy HT, Aduss H, Rosenthal IM. Tooth eruption and craniofacial development in congenital hypothyroidism: report of case. *J Am Dent Assoc* 1987; **115**: 429–431.

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