

DTB CME/CPD Answers



Drug and Therapeutics Bulletin

Challenges in managing drooling in children

Question 1

Anterior drooling is considered neuro-developmentally abnormal if it occurs in children over what age?

- a. 18 months
- b. 24 months
- c. 30 months
- d. 36 months
- e. 48 months

Answer: e. Anterior drooling is normal in infancy, but is considered neuro-developmentally abnormal if it occurs in children over the age of 4 years old, and is commonly seen in those with physical, intellectual and learning disability, and poor neuromuscular coordination and oral control.

Question 2

A neurological examination is essential when assessing drooling. Which of the following should be assessed as part of the neurological examination?

- a. Motor skills
- b. Posture
- c. Tone
- d. Facial and hypoglossal nerves
- e. All of the above

Answer: e. The neurological examination should focus on the facial and hypoglossal nerves, posture, tone and motor skills.

Question 3

In a small randomised placebo-controlled crossover study, children with developmental delay and moderate to severe drooling received 2 weeks treatment with transdermal hyoscine. During treatment with hyoscine in what proportion of days was no drooling reported?

- a. 7%
- b. 11%
- c. 17%
- d. 24%
- e. 31%

Answer: e. In a randomised controlled trial, 11 children with developmental delay and moderate to severe drooling received two weeks of transdermal hyoscine or placebo patches, one week washout and then the other patch for two weeks. On hyoscine, the usual amount was reported on 20% of days, less than usual on 22%, much less than usual on 27% and none on 31% of days ($p < 0.00001$).

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Question 4

In a placebo-controlled study more patients taking glycopyrronium solution than placebo responded as assessed by the modified Teacher's Drooling Scale. At 8 weeks, 14/19 [74%] of the children taking glycopyrronium experienced at least a 3-point reduction on the modified Teacher's Drooling Scale compared with 3/17 [18%] in the placebo group. What is the absolute risk difference and the number-needed-to-treat (NNT) at 8 weeks for glycopyrronium compared with placebo?

- a. 56%; 1.8
- b. 5.6%; 1.8
- c. 5.6%; 18
- d. 56%; 18
- e. 0.56%; 1.8

Answer: a. The absolute risk difference is the difference between the event rate in the experimental group and the event rate in the control group (74%–18%=56%). The NNT is the reciprocal of the absolute risk difference ($1 \div 0.56 = 1.8$). This means that approximately 2 patients would need to be treated with glycopyrronium oral solution instead of placebo for one to achieve at least a 3-point reduction on the modified Teacher's Drooling scale.

Question 5

Which one of the following statements about botulinum toxin injections for drooling is correct?

- a. Botulinum toxin is a potent endotoxin of *Clostridium botulinum*
- b. Reinnervation of the neurosecretory junction occurs 1–2 years after injection
- c. Use of botulinum toxin in the management of drooling is off-label
- d. Two botulinum serotypes are in clinical use: toxin-D and toxin-E
- e. Different forms of botulinum toxin produce a standard and consistent response irrespective of the serotype used

Answer: c. The use of botulinum toxin in the management of drooling is off-label and administration should be undertaken in a specialist centre; a safe maximum dosage and ideal method of application have not been established.