

DTB CME/CPD Answers



Drug and Therapeutics Bulletin

Coenzyme Q10 and statin-related myopathy

Question 1

Mr FP, a 51-year-old with well-controlled type 1 diabetes, attends for a check-up. During the consultation, you discuss his increased risk of developing cardiovascular disease. You explain the benefits of lifestyle changes, such as reducing calorie intake and increasing physical activity, as well as the possibility of starting treatment with statins. You spend some time talking through the benefits and harms of drug therapy as Mr FP has heard that statins can cause muscle problems. According to data from randomised trials, cohort studies, published case reports and spontaneous reports, what is the estimated incidence of mild muscle pain?

- 25 cases per 100,000 patient years
- 90 cases per 100,000 patient years
- 190 cases per 100,000 patient years
- 330 cases per 100,000 patient years
- 540 cases per 100,000 patient years

Answer: c. Data from randomised trials, cohort studies, published case reports and spontaneous reports have been used to estimate the incidence of statin-related adverse effects as follows:

- mild muscle pain: 190 cases per 100,000 patient years
- myopathy: 5 cases per 100,000 patient years
- rhabdomyolysis: 1.6 cases per 100,000 patient years.

Question 2

Mr FP wants to know more about muscle-related adverse effects. You talk about the differences between statins and mention that some factors are associated with an increased risk of statin-related myopathy. Which one of the following is not associated with an increased risk of statin-related myopathy?

- Gender
- Diabetes
- Hypothyroidism
- Smoking
- Renal impairment

Answer: d. The risk of myopathy is increased with older age, female sex, genetic profile and comorbidities such as hypothyroidism, hepatic or renal impairment and diabetes.

Question 3

During the consultation, Mr FP agrees to start statin therapy. Which one of the following would not be an appropriate course of action as part of the management of suspected statin-related myopathy?

- Review the patient's medication for potential drug interactions
- Stop the statin
- Reduce the statin dose
- Coprescribe coenzyme Q10 to improve adherence to statin treatment
- Switch to an alternative statin

Answer: d. Guidelines from the National Institute for Health and Care Excellence (NICE) do not recommend coenzyme Q10 supplementation to increase adherence to statins.

Complete this module online

This CME/CPD module is available for completion online via BMJ Learning (learning.bmj.com) by subscribers to the online version of DTB.

If you would like to add online access to your current subscription, please contact our Customer Services team on +44 (0)20 7383 6270 or email support@bmjgroup.com. As well as allowing you to complete CME/CPD modules online, an online subscription also gives you unlimited access to the entire DTB archive back to volume 1, issue 1.

For further information, please visit www.dtb.bmj.com

Coenzyme Q10 and statin-related myopathy

Question 4

It has been hypothesised that coenzyme Q10 deficiency is a possible cause of statin-induced myopathy. Coenzyme Q10 supplementation has therefore been proposed to reduce the adverse muscular effects sometimes seen with statins. Which one of the following statements about coenzyme Q10 is correct?

- a. Coenzyme Q10 is not available as a UK licensed medicinal product
- b. National Institute for Health and Care Excellence (NICE) guidelines recommend routine use of coenzyme Q10 for patients taking statins who are experiencing muscle problems
- c. Treatment with coenzyme Q10 is associated with postural hypotension and cardiac arrhythmia
- d. Coenzyme Q10 is well tolerated with negligible adverse effects reported in trials
- e. Statins have been shown to result in a consistent decrease in myocyte coenzyme Q10 levels

Answer: d. Coenzyme Q10 is generally well tolerated with negligible adverse effects reported in clinical trials.

Question 5

Which one of the following drugs may be affected by concomitant use of coenzyme Q10?

- a. Diltiazem
- b. Amiodarone
- c. Amlodipine
- d. Ciclosporin
- e. Warfarin

Answer: e. Case studies have reported a potential interaction between coenzyme Q10 with warfarin leading to a decreased international normalised ratio (INR). A small prospective placebo-controlled trial of patients taking warfarin and coenzyme Q10 over four weeks found no significant change in prothrombin time and INR levels. The *British National Formulary for Children* notes that ubiquinone "may enhance or reduce anticoagulant effect of warfarin".