Tramadol-warfarin interaction

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Overview of: Danbury G Susan Gladstone: Prevention of future deaths report [online], 2023. Available: https://www.judiciary.uk/prevention-of-future-death-reports/susan-gladstone-prevention-offuture-deaths-report/ [Accessed 8 January 2024].

Key learning points

- In the UK, coroners have a duty to report cases where they believe action should be taken to prevent future deaths.
- A coroner investigated the case of a patient who died from intraparenchymal and subarachnoid haemorrhage.
- The inquest concluded that the cause of the bleed was an interaction between warfarin and tramadol that resulted in a significant degree of anticoagulation.

A UK coroner who concluded that the death of a patient was caused by a generally unknown interaction between warfarin and tramadol has asked NHS England to take action to prevent future deaths from such an interaction.[1]

Overview

A patient who had been prescribed warfarin for several years had her international normalised ratio (INR) monitored by the local anticoagulation service.[1] She was prescribed tramadol for low back pain with a further prescription for tramadol issued 15 days later. On the day the first prescription for tramadol was issued, the patient's INR was 3.3. Two days after the second prescription was issued, the patient was admitted to hospital as she had been feeling increasingly unwell over the preceding few days. On admission, her INR was found to be 11.6 and 'reversal medication' was prescribed. Unfortunately, the patient's condition deteriorated and she died 2 days later.

The cause of death was bleeding in the brain, which was thought to have resulted from the significant degree of anticoagulation.[1] The local anticoagulation service commented that although tramadol was known to interact with warfarin and there had been previous cases where it had caused an increase in INR, there was no warning listed in the *British National Formulary* (*BNF*). The coroner noted that there was nothing to warn the prescribing doctor of a possible interaction. The coroner concluded that an interaction between tramadol and warfarin had resulted in a dangerously high INR that caused the patient's death. The report was sent to NHS England to take action to prevent future deaths from an interaction between tramadol and warfarin.

Context

Coroners are under a legal duty to make a report to 'a person, organisation, local authority or government department or agency where the coroner believed that action should be taken to prevent future deaths'.[2] These reports—known as Reports to Prevent Future Deaths (PFD)—are published on the Courts and Tribunals Judiciary website. Although the PFD raises issues and recommends that action should be taken, it does not state what that action should be. It is the responsibility of the person or organisation to whom the PFD report is directed to determine the action that needs to be taken. The person or organisation must respond within 56 days—or longer if the coroner grants an extension.

Various case reports of an interaction between tramadol and warfarin have been published.[3–7] The authors of one report suggested that if an interaction does occur, it will typically happen within 3–4 days after tramadol has been started by the patient and that normalisation of INR can take several days after tramadol has been stopped.[7] An article published in 2006 by the New Zealand Medicines and Medical Devices Safety Authority concluded that there is evidence for an interaction between oral tramadol and warfarin in some, but probably not all, individuals and that INR should be closely monitored if it is necessary for a patient to take both medicines.[8] Information on a possible interaction between tramadol and warfarin is included in the summary of product characteristics for tramadol and the *BNF* was recently updated with details of the interaction.[9]

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