

Think Medicines!



Cambridgeshire and Peterborough
Clinical Commissioning Group

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Safety

POTENTIAL UNDER-RECOGNISED RISK OF HARM FROM THE USE OF PROPRANOLOL

Emma took an overdose of propranolol and citalopram. She sadly died within 3 hours of ingestion, despite contacting emergency services within 10 minutes of taking the overdose.

A [Healthcare Safety Investigation Board \(HSIB\) Report](#) contains the findings of an investigation into Emma's death, and the risk of propranolol toxicity.

PROPRANOLOL USE

- Propranolol is licensed for the treatment of hypertension, migraine prophylaxis and anxiety.
- Use in Primary Care is relatively common.
- Studies have demonstrated that people who have migraine are over two and a half times more likely to have depression compared with people who do not have migraine.
- Depression is one of the most common psychiatric comorbidities in patients with migraine, up to 47.9% of patients with migraine are also reporting that they have depression.
- Propranolol is also licensed for the treatment of physical symptoms of anxiety.

EMMA'S STORY

- Emma (a young woman in her 20's) called 999 at 7:00pm to report she had taken an overdose of propranolol and citalopram.
- She was alert and responsive at the time of the call.
- An ambulance arrived at the scene at 7:56pm; the crew found Emma awake but unable to speak or move.
- Emma's condition deteriorated rapidly and advanced life support efforts were taken to resuscitate her, but these were not successful.

PROPRANOLOL TOXICITY

- **Early recognition of propranolol toxicity is IMPERATIVE.**
- **Fatal propranolol overdoses** have been recorded where patients have ingested **2g or more of propranolol.**
- Emma received 160 x 40mg propranolol tablets every time she collected her repeat prescription, providing **a total of 6.4g of propranolol.**
- Between 2012 and 2017 there has been a **33% increase** in the number of patients reported to have died due to propranolol overdose, with **52 people recorded as having died to propranolol overdose in 2017.**
- **67% of these people were women.** Young women have also been seen to be at greater risk of death from propranolol overdose.
- **Symptoms of overdose:**
 - ⇒ Light-headedness
 - ⇒ Dizziness
 - ⇒ Fainting
 - ⇒ Heart failure may be precipitated or exacerbated.
 - ⇒ Patients may have slow heart rate.

Reference: PrescQIPP Under-recognised risk of propranolol February 2020.

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LEARNING FROM EMMA'S STORY—WHAT CAN WE DO DIFFERENTLY?

The HSIB report found that healthcare professionals are largely unaware of the dangers of propranolol in overdose and that a patient's condition may rapidly deteriorate.

RECOMMENDATIONS

- Be aware of the symptoms of an overdose with propranolol and other beta-blockers.
- Acute massive overdosage with beta blockers should be managed in HOSPITAL as the health of patients overdosing on propranolol may rapidly deteriorate.
- Use your GP clinical systems searches or manually identify patients at increased risk of using propranolol for self-harm because they have co-existing migraine, depression or anxiety. GP clinical system searches are available at: <https://www.prescqipp.info/our-resources/webkits/hot-topics/>.
- Review the continued suitability of propranolol treatment for co-existing migraine, depression or anxiety. PrescQIPP have produced an [audit template](#) which may be used for this purpose. Refer to NICE guidance on migraine and anxiety for suitable alternatives, where propranolol may no longer be considered a safe treatment for an individual.
- Ensure that patients are aware of the harms of propranolol in overdose and the steps they should take in cases of purposeful or accidental overdose. The patient information leaflet explains what a patient should do if they take more tablets than they should.
- Issue patients with a **Know, Check, Ask** Medication Without Harm - propranolol information leaflet.
- Provide patient with information on self-help, such as an antidepressant patient information leaflet or a self-help resources for support list.

KNOW, CHECK, ASK - PROPRANOLOL PATIENT INFORMATION LEAFLET

It's important that you **KNOW, CHECK, ASK** about propranolol.

KNOW that taking more propranolol than you should can be dangerous, especially if you also take medicines to treat depression, migraine or anxiety.

CHECK you know how to take your propranolol and what to do if you take more than you should.

ASK if you are unsure or experience any side effects.

Always keep a current list of your medicines handy.



What does propranolol safety mean for me?

Reference: PrescQIPP Under-recognised risk of propranolol February 2020.