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Reminder of important clinical lesson

'I saved a life': a heroin addict's reflections on managing an overdose using 'take home naloxone'

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Summary

Research shows that most heroin addicts, at some point in their drug using careers, accidentally overdose and that accidental overdose is the most common cause of death in this group. As most such overdoses are witnessed by other drug users or their carers, it is argued that providing 'take home naloxone' (a fast-acting opiate antagonist) to them (as potential witnesses to an overdose) can save lives. Despite the robust evidence base to support the feasibility and effectiveness of this strategy, its integration into clinical practice in the UK is still very limited. Here, we report the case of a heroin addict who used his take home naloxone to manage an overdose and thereby saved a life.

Through this account, we hope to raise clinicians' awareness of this simple yet life-saving intervention. We will also briefly discuss the evidence base for take home naloxone with particular reference to the UK and will also give some practical guidance to clinicians on prescribing take home naloxone.

BACKGROUND

Heroin addiction is an important health and social problem, and it is estimated that there are nearly 300 000 heroin addicts in treatment in England alone. This figure is very likely to be an underestimate, because there are many more heroin addicts who are not accessing and engaging with treatment services. More worryingly, the UK has among the largest heroin addict population in Europe. So too, the UK also has the highest number of heroin overdose deaths. Latest figures suggest that nearly 1500 people die annually from heroin-related overdoses.[1]

Among heroin addicts, overdosing (accidental) is the most common cause of death. Research has shown that between 40% and 70% of injecting drug users have overdosed at least once.[2] It has also been shown that most of these overdoses are witnessed, and often by other heroin users or their carers. Naloxone, an opiate antagonist, if administered in such overdose situations can immediately reverse opiate-inducted respiratory depression and thereby save lives. This is the rationale behind supplying 'take home naloxone' to heroin addicts and to their families, that is, should they witness an overdose, they could intervene by administering it.[3]

Take home naloxone, as a harm reduction measure, started out in Europe in the late 1990s and since then has been adopted in Australia, USA and UK. Over this period, considerable evidence has emerged to support the effectiveness of this intervention (see Discussion section for a review of evidence base). This has also been gathering momentum in the UK, with successful feasibility and effectiveness studies. The National Treatment Agency, although it has not been very enthusiastic about take home naloxone in the past, is currently leading a pilot study across England. From a clinical perspective, it is fair to say that take home naloxone prescribing has not been embraced universally by clinicians.[4]

In our community drug team, albeit on a small scale, over the past 2 years we have prescribed take home naloxone to high-risk patients and their carers. In this case report, we share the story of one of our heroin addict patients who used his prescribed naloxone to save a life. Through this account, we hope to raise clinicians' awareness of this simple yet life-saving intervention. We will also briefly discuss the evidence base for take home naloxone, with particular reference to the UK and will also give some practical guidance to clinicians on take home naloxone prescribing.

CASE PRESENTATION

Mr M is a 28-year-old white British man who lives on his own. He is currently unemployed and is on state benefits.

Mr M was first seen in our drug service in late 2003, following a referral from Probation. He was soon placed on a Drug Testing and Treatment Order (DTTO). At initial assessment, he reported a 2-year history of crack cocaine misuse and a 4-year history of heroin dependence. He had started using cocaine in his mid-to-late teens, then went on to use ecstasy and a few years later had become dependent on heroin. He was smoking between one and two bags (0.2–0.4 g) of heroin and £10–20 worth of cocaine a day. At that assessment, he said he had never injected any drug. He denied alcohol misuse. He had been in prison several times, all for drug-related offences. He gave no history of comorbid medical or psychiatric disorders. He was living on his own, having separated from his partner and 3-year-old daughter.

Mr M derives from a family of three; he has two younger sisters. There is no family history of substance use disorders. He is closer to his father than his mother. His mother has a history of depression and epilepsy but there is no other family history of mental health or chronic medical problems.

He was born and raised locally, attended normal mainstream schools and left school with a few GCSEs. He has worked sporadically since leaving school, as a labourer and

mechanic. He has committed various acquisitive offences to finance his drug use.

The following section is a summary of Mr M's treatment episodes with our service. Since 2003, Mr M has been in treatment with our service for his heroin dependence. This has been punctuated by episodes of non-engagement and spells in prison. In the past 6 years or so, he has been on substitute opiates – oral methadone (in doses of up to 70 ml/day) and sublingual buprenorphine up to 8 mg/day. As he himself puts it, he has had 'his good times and bad'. 'Good times' refer to spells when he has managed to remain 'clean' of all illicit psychoactive substances, and be on only prescribed opiate substitute medication. 'Bad times' refer to when he has either 'dropped out' of treatment and has used heroin and crack chaotically, or when he has been in treatment but still used heroin 'on top' of the prescribed substitute. When he has been 'stable' on methadone/buprenorphine, he has successfully held down jobs and has established good interpersonal relationships with his family. During the chaotic periods of his life, he has returned to daily injecting of heroin and crack and regular offending. He has served 'more than fifteen prison sentences' and has spent 'over seven years inside'. Apart from the above-mentioned pharmacological interventions, his treatment package has always consisted of one-to-one psychological input from his key worker and further support to address his social needs. During his treatment episodes, he has been in treatment voluntarily and under court orders (such as DTTO and DRRs (Drug Rehabilitation Requirement)), with neither achieving consistently successful outcomes. He has also had numerous detoxification attempts, which again have been successful in the very short term but only for him to relapse back soon into regular heroin use.

Current/present situation

Mr M is currently on buprenorphine 8 mg daily. He has been doing well over the past few weeks and has not misused any heroin or cocaine. He is attending college and is also seeking employment. He is living on his own and is single. He is engaging well with his drug worker-provided psychological treatment sessions. He appears highly motivated and insightful to address his drug use and lead a 'normal' life.

Patient perspective

Given below are Mr M's reflections on being prescribed take home naloxone and having used it in an overdose situation to save a life.

"I feel it's [take home naloxone] a good thing that you can have with you to help others. Like in case of any emergency, like if one of your friends is overdosing, it's great to have it. It helps; it helped me in my situation. And the training and all that was very good as well, recovery position and all that. It made me more confident, I think.

And having someone 'go over' [overdosing] in front of you ain't that unusual in our world. It happens all the time. Not all of us know what to do then. Some just leave, because they panic and don't want to get into trouble. Some may call an ambulance and wait. Previously when I've been in overdose situations like, I just put them in recovery position and phoned the ambulance, then I basically kept checking on them to make sure that they were still breathing.

But it was different this time. OK, well I was sitting in my flat about 10.30 at night and my friend S came to see me and he said to run down to the flat because he thought his friend had overdosed. So I ran down to the 5th floor of my block of flats and found this lad turning blue like. I put him in the recovery position and I ran straight back upstairs, grabbed the naloxone and ran back to his flat. I pulled his trouser bottom down and stuck it in his backside and gave him the injection. When I was doing that I got my mate to call the ambulance. After about two minutes, he started going back to a normal colour and started stirring. Then he woke up and started having withdrawal symptoms, like. By then the ambulance came and took him to hospital.

I think if I hadn't done the training with naloxone, I would have panicked and not known what to do. Just having the knowledge and naloxone was a great help. I would get anybody to do it, I would. Having the naloxone with me, gave me a sense of responsibility I think. I had to do something and I knew what to do. I did not panic at all. In fact, I even managed to calm my mate down, who was getting all stressed. Yes, that's all I think. I don't know what else to say or what more I felt. It felt great, saving a life".

INVESTIGATIONS

Urine and saliva tests at various points in his treatment have corroborated his history of illicit (heroin and cocaine) and prescribed (methadone and buprenorphine) psychoactive substance use.

TREATMENT

As noted in the case presentation section, Mr M is currently only on prescribed buprenorphine 8 mg daily. He is clean of all illicit psychoactive substances such as heroin and cocaine. It is hoped that we can commence a gradual reduction of his buprenorphine in the next few months. He has been tested for all bloodborne viruses (all negative) and has been vaccinated against hepatitis B. He has not injected drugs for 'over two years'.

OUTCOME AND FOLLOW-UP

Details of Mr M's treatment aspects are covered in case presentation and treatment sections. In summary, Mr M continues to be under the care of our service for his heroin addiction. He is prescribed buprenorphine 8 mg daily, and is not misusing any heroin or cocaine. He is regularly monitored by his drug worker (with whom he has regular psychological treatment sessions) and 3-monthly by the doctor. His engagement with our treatment service is presently good. He is not offending, lives alone, is attending college and is looking for work. Currently, he is highly motivated to address his drug use and it is anticipated that his buprenorphine can be reduced and stopped over the next few months.

DISCUSSION

As is clear from Mr M's account above, there is no doubt that take home naloxone can be life saving and hence a very successful/effective intervention. From this report, it is also reassuring for the clinician to note that take home naloxone can be easily incorporated into busy clinical settings, and so this intervention is definitely feasible. We

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do acknowledge that ours is not the first report of a life saved using take home naloxone, but nevertheless we would like to make clinicians aware of this life-saving intervention, and also its effectiveness and feasibility. Another important issue to note here, and also reinforced by other anecdotal accounts we have had from users and carers, is the sense of empowerment felt by those given a supply of take home naloxone. We will now briefly discuss the evidence base for naloxone distribution programmes, with particular reference to the UK.

Evidence base

An evaluation by the Chicago Recovery Alliance, pioneers of naloxone distribution programmes in the USA, showed that nearly 200 lives were saved by use of naloxone.[5] Closer to home, in the UK, studies have looked at the feasibility and effectiveness of supplying take home naloxone, and also at users' and carers' views on receiving the training.

Strang *et al*[6] in the largest UK study to date trained 239 opiate addicts in management of overdose and supplied them with naloxone. At 3-month follow-up, they found that naloxone was successfully used on 12 occasions. They also found that appropriate training resulted in opiate addicts becoming more knowledgeable about risks of overdose, characteristics of overdose and actions to be taken including administration of naloxone; these significant improvements were seen immediately after the training and were retained after 3 months. This was the first study in the UK, albeit under research conditions, that demonstrated the feasibility and effectiveness of take home naloxone programmes. In a much smaller study, 66 opiate addicts in Birmingham were given overdose management training and naloxone, and the sample was followed up for 6 months.[7] Although they found that trained addicts retained the knowledge imparted and their supply of naloxone, not all of them carried naloxone with them and subsequently they were unable to use it when needed. Hence, although they found that take home naloxone training was very valuable, they concluded with a call for a more coherent model of implementation, specifically aiming to address barriers at individual (stigma, transportability) and systems levels (involvement of police, prescription laws, etc).

Studies in the UK have also explored users' and carers' views on receiving overdose management training and take home naloxone. Wright *et al*,[8] using a qualitative study design, explored the acceptability of peer take home naloxone use among homeless drug users. They found high levels of acceptability among interviewees to receiving training on administration of naloxone, and called for wider implementation of take home naloxone within a health provision framework. Strang *et al*,[9] assessed carers of heroin addicts for their experiences of overdose, knowledge on management of overdose and interest in receiving overdose management training and supply of take home naloxone. Of the 147 carers studied, 31 had seen an overdose (including 8 deaths) but only 26% had received advice on management of overdose and only 33% had heard of naloxone. However, 88% wanted more training in overdose management and also training in naloxone administration.

Albeit limited, in the UK, there are some clinical services where take home naloxone programmes are running well – Birmingham, Blackfriars Road and Beresford Project, South Gloucestershire, Lanarkshire and Glasgow.[4] All this said, take home naloxone as a harm reduction intervention is not without its critics. Opponents highlight various concerns: it could be interpreted as professionals condoning injecting behaviour, it is not effective in non-opiate overdoses, it is not useful in addicts who inject alone, having naloxone may put people off calling an ambulance and possession of naloxone may encourage heavy drug use. Even if these can be overcome, there are also other barriers that will need to be overcome if take home naloxone is to take off. Our own experience has shown that perhaps three of the most important barriers are clinicians' lack of enthusiasm to embrace it and the lack of resources and lack of a coherent strategy. Best *et al*[4] too noted similar obstacles: worker ambivalence, concerns about legislation, lack of policy and local variations in naloxone programmes.

Finally, we offer brief guidance notes for clinicians wishing to prescribe take home naloxone:

- Naloxone is a μ-opioid antagonist.
- Naloxone is ineffective orally and is to be administered parenterally (intramuscular is most common).
- Onset of action is within 2–4 min.
- The recommended dose is 0.4–2 mg, repeated if need be, every 2–3 min, up to a maximum of 10 mg.
- Naloxone has a very good safety profile and has no side effects.
- Naloxone only works in opioid overdoses.
- Although naloxone is a prescription-only medicine, the law permits any third party to administer it to save a life.
- Take home naloxone should only be offered as part of a much wider overdose management training programme.
- Users should be advised to always call an ambulance soon after administering naloxone.
- Take home naloxone is best supplied during times of reduced tolerance as this increases the risk of overdose, that is, discharge after detoxification, release from prison.
- Naloxone can precipitate an immediate and severe withdrawal, so the victim could be angry and agitated on resuscitation.
- Always observe the victim for delayed respiratory depression, even if he/she responds to the first dose of naloxone.

CONCLUSION

In summary, given the life-saving potential of take home naloxone and its feasibility and effectiveness, more needs to be done to aid wider implementation of take home naloxone distribution programmes and thereby save more lives.

Learning points

- Accidental overdose, often witnessed, is the most common cause of death among heroin addicts.
- Naloxone is a fast-acting opiate antagonist that by reversing opiate-induced respiratory depression can prevent death.
- Take home naloxone, supplied to drug users and/or their carers (who are potential overdose witnesses), has been shown to be a feasible and effective life-saving intervention.
- Take home naloxone should only be prescribed as part of a more comprehensive overdose management training programme.
- Take home naloxone prescribing can be feasibly and successfully integrated into one's busy clinical practice.

Competing interests None.

Patient consent Obtained.

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