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High risk of death for opiate detoxification completers

Completion and opiate-free discharge are considered the markers of successful detoxification from drugs such as heroin, but in this case 'success' can carry a much higher risk of death than failure. New findings from Italy and Australia highlight the need to carefully select and prepare detoxification candidates and to invest in aftercare if patients are to survive loss of protective tolerance to opiate drugs after discharge.

Over 18 months the Italian VEdeTTE study tracked 10,454 heroin users starting treatment in 1998–2001.[1] During the same length of time, patients who had completed outpatient detoxification were four times as likely to die from overdose as those who had failed to complete. Six of the seven deceased were detoxification completers, just one a drop-out.

The importance of robust rehabilitation and aftercare was apparent in the fate of patients who entered residential therapeutic communities. There it was the drop-outs who tended to die, resulting in a post-treatment death rate of over 2 per year for every 100 former residents, the highest in the study. Like the detoxification completers, these patients will have lost their tolerance to opiate-type drugs, but drop-out indicates that rehabilitation was incomplete.

Across the whole study, overdose deaths per month were three times more frequent in the 30 days after leaving treatment than later, suggesting that relapse after treatment which had reduced tolerance but failed to foster a sufficiently resilient drug-free life was the major risk. Whatever the treatment, while patients were still in it, deaths were rare.

Even at the peaks death rates in this study were lower than in others. This may be partly because in a UK context the programmes were extraordinarily extended, potentially giving patients time to construct a stable opiate-free life. Residents spent on average 15 of the 18 months of the study in their therapeutic communities and outpatient methadone detoxification lasted nearly a year, very different from the short sharp detoxifications typical elsewhere.

Some of the highest death rates ever seen were recorded in Australia. There patients who completed detoxification and tried to avoid relapse by taking the opiate-blocking drug naltrexone faced what could have been a 1 in 12 chance of being dead within three months. This estimate came from a study which combined national treatment and prescription records for 2000-2003 with coroners' records of deaths related to

naltrexone, buprenorphine or methadone.

An estimated 1 in every 100 episodes of naltrexone treatment ended in overdose death, nearly all in the fortnight after treatment terminated.[2] During this post-treatment period former patients died at an annualised rate of 22 in every 100. In comparison, there was just one death related to buprenorphine and methadone deaths per episode were just a quarter as frequent and very rare in the immediate post-treatment period.

An earlier research report[3] previously analysed in Findings attempted to compensate for the fact that deaths related to naltrexone treatment are harder for coroners to spot because typically they occur after the drug has been cleared from the body. In contrast, methadone would normally be implicated by autopsy and other reports. As a result, the naltrexone figures were "certainly a substantial underestimate".

How great that underestimation might have been was calculated from an independent set of figures for one Australian state which suggested that 6 out of 7 deaths were missed by coroners. If this was the case nationally, 8% of patients starting naltrexone would have died within three months of starting their treatment (two months on naltrexone plus the immediate post-treatment period). This scaling up rests on several unproven assumptions, but wide variations in these would still leave a worryingly high risk.

Internationally opiate detoxification is associated with a high death rate compared to other treatments.[4] An earlier UK study confirms the risk of completing the treatment.[5] In 2003 a report on 137 opiate detoxification patients discharged from the Bethlem's inpatient unit found that all three overdose deaths in the following four months were among the 37 who had 'successfully' detoxified and completed the programme. There were none among non-completers. The annualised death rate among completers was 24 in every 100. The longer patients had stayed on the unit, the more likely they were to die after leaving.

Such findings imply that concern to meet many patients' ambitions to stop taking opiate-type drugs must be tempered by awareness of the risks. Programmes which achieve high rates of completed withdrawal through isolation (such as inpatient programmes and those which precipitate withdrawal under sedation) seem particularly likely to lead patients who are not yet ready for an opiate-free life to lose their protective tolerance. Ironically, outpatient programmes which test the patient's resolve in real-world conditions may be safer because relapse is more likely to occur before tolerance is eliminated.

UK national guidelines[6] caution careful selection of patients fully committed to the process and who will have supportive and stable social environments available after discharge, among which may be seamless entry in to residential rehabilitation. The preparation phase and the detoxification interlude itself should be used to bolster psychological resilience and social supports. Patients whose attempt at abstinence is not working out should be offered immediate access to alternative treatments such as buprenorphine and methadone programmes. For patients who do complete withdrawal, a full programme of aftercare is vital to help avoid relapse and to identify when further support or alternative treatments are advisable. The general message is that detoxification without preceding stabilisation and preparation and succeeding aftercare

including the construction of a resilient post detoxification life is too often a band-aid measure which risks more harm then good.

Thanks for their comments on this entry in draft to Ed Day of the Queen Elizabeth Psychiatric Hospital. Commentators bear no responsibility for the text including the interpretations and any remaining errors.

1 **FEATURED STUDY** Davoli M. et al. Risk of fatal overdose during and after specialist drug treatment: the VEdeTTE study, a national multi-site prospective cohort study. Addiction: 2007, 102, p. 1954–1959.

2 **FEATURED STUDY** Gibson A. et al. Mortality related to pharmacotherapies for opioid dependence: a comparative analysis of coronial records. Drug and Alcohol Review: 2007, 26(4), p. 405–410.

3 Gibson A. et al. Mortality related to naltrexone in the treatment of opioid dependence: a comparative analysis. [Australian] National Drug and Alcohol Research Centre, 2005.

4 Best D. et al. Overdosing on opiates part I: causes. Drug and Alcohol Findings: 2000, issue 4.

5 Strang J. et al. Loss of tolerance and overdose mortality after inpatient opiate detoxification: follow up study. British Medical Journal: 2003, 326, p. 959–960.

6 Department of Health (England) and the devolved administrations. Drug misuse and dependence: UK guidelines on clinical management. London: Department of Health (England), the Scottish Government, Welsh Assembly Government and Northern Ireland Executive, 2007.

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