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Thirdly, there are major concerns about the effects of producing irreversible lesions in neural centres that are implicated not only in drug-mediated reward but in the control of food intake, sexual behaviour and probably a myriad other more mundane daily pleasures. What effect will these procedures have on the person’s responsiveness to reward, their motivation, mood state, risks of depression and suicide and capacity for planned action? What will happen if heroin addicts attempt to compensate for the attenuated reward from heroin by increasing their heroin dose to levels that may be lethal in overdose? No attempt has been made to answer these questions, with the published evaluations limited to showing minimal changes on cognitive and personality tests [3,6] which provide, at best, very coarse assessments of adverse effects on personality and cognition.

Fourthly, the published evaluations of the procedures have been uncontrolled case-series using the patients’ previous experiences after detoxification as the comparison [3,6]. The false assumption is that detoxification is a treatment of opioid dependence and hence failure to remain abstinent thereafter is an indication of treatment failure. There has not been any attempt to assign patients randomly to an effective comparison treatment, such as opioid agonist maintenance, because this treatment is not permitted in China [19] and prohibited by law in Russia [16]. There has not even been any attempt to compare its efficacy with oral naltrexone, which has been used in Russia, reportedly with better results than in western countries [16].

Fifthly, there are doubts about whether patients have given free and informed consent to participate in this surgery [11]. Chinese and Russian policies towards opioid dependence are punitive, with imprisonment and compulsory detoxification as the first line, and indeed the primary forms of ‘treatment’ in the absence of agonist maintenance treatments using methadone or buprenorphine. Under these punitive conditions, there are doubts about how freely consent can be given to undergo neurosurgery. Nor can patients be said to provide informed consent when they are offered only ineffective treatment options such as detoxification; and in the absence of controlled outcome studies or preclinical studies of safety, it is unclear how well-informed patients can be about the risks of the procedure to which they are asked to consent.

These concerns will be obvious to most in the addictions field, but we cannot assume that this will be true among neurosurgeons, addicts or the wider community. Nor should we assume that expert views would be accepted by addicts and their families, who may be desperate to achieve abstinence from heroin and other opioids at almost any personal or financial cost. The experience with ultra-rapid opiate detoxification (UROD) in Australia was that addiction experts’ criticisms of the procedure were portrayed as preventing access to an addiction ‘cure’ to protect personal vested interests in the perpetuation of addiction [20].

The addictions field will need to speak with a united voice if we are to ensure that neurosurgical treatment of addiction is not introduced into developed countries by enthusiastic private practitioners without formal evaluation, as purported ‘cures’ for heroin addiction all too often are. We must also be prepared to face the challenge that may arise if neurosurgical entrepreneurs in developing countries with poorly regulated medical care and punitive policies towards opioid addiction begin to market neurosurgery as an addiction ‘cure’ via the internet (as happened with UROD), in the expectation that there will be a market for the treatment among addicts and their families in developed countries. If this happens, clear and consistent statements of the case against pursuing this desperate remedy will be required from credible organizations, such as the World Health Organization.

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References