

**METHADONE** (Commentary)**Drug misuse in pregnancy**

Drug misuse (abuse) is common, but only a minority of misuse is associated with dependence (or addiction). Society currently displays a schizophrenic attitude to drug abuse. We seem to accept alcohol intake and smoking during pregnancy even though we know that these drugs can be addictive, and that regular use can affect the baby. There is a puritanical (and paternalistic) streak, that is particularly strong amongst legislators in America, that would ban all alcohol intake in pregnancy, but there is no good evidence that an intake of less than ten units a week is harmful (Henderson *et al.*, 2007) unless it is consumed in one go (one 'unit' of alcohol being a single pub measure of spirits, a small glass of wine, or half a pint of ordinary strength beer or cider). In addition, smoking in pregnancy is now seen as one of those 'facts of life' that the medical and midwifery professions can do little to change. The attitude to other recreational drug use is more censorious, even though we know that quite a few UK doctors occasionally take drugs themselves, especially during times of stress in the first few years after qualification.

Opiate addiction presents the most serious challenge, and IV injection further increases the risk to the mother's health. Indeed the main reason for offering these mothers methadone is that it may help them to avoid the hazards associated with giving any drug IV. Access to oral methadone may, by limiting the woman's urge to acquire other costly drugs of doubtful purity, also help stabilise her life style. Attitudes change over time. Opium and laudanum were widely used by the middle classes in Europe and North America in the nineteenth century (especially in literary and bohemian circles). Opium was even added in many infant 'soothing syrups'. Now it has been estimated that, when no legal source is available, the average UK addict gets through £20,000 worth of heroin a year. Diet may become inadequate, and alcohol intake may rise. Judgmental attitudes can deter addicts from seeking help until problems escalate. Users may seem to have neglected their condition when the health services have actually, by their attitude, effectively excluded them from care. Despite this, many manage to lead apparently normal lives, running a family or holding down a job.

Few areas of maternity care are more in need of a collaborative, team-based, approach. Little can be achieved until the woman's trust and confidence have been won. Antenatal care should have identified the women most in need of help and support. Intravenous drug users should always be tested, with their informed consent, for sexually transmitted infection, and for possible hepatitis B, hepatitis C, and HIV infection, both to optimise the scope for treatment and to minimise the risk that the baby will also become infected. Some units make this part of routine antenatal care. Plans for post delivery care should also be made ahead of delivery, and the mother should know what these are.

Many heroin users also take other drugs. While the recreational use of drugs such as cannabis, LSD, PCP, amphetamine, ecstasy, or cocaine on their own do not usually cause neonatal withdrawal symptoms serious enough to require treatment, the same is not true for high-dose benzodiazepine use. Transferring a mother from heroin to methadone may actually make matters worse because this does not give the immediate 'high' that is obtained when heroin is smoked, heated on tin foil and inhaled ('chasing the dragon'), or taken IV. Cocaine may then be turned to for the 'liff' that it gives and a benzodiazepine, such as temazepam, used to reduce the 'low' that tends to follow. Fashions change, but combined addiction to heroin and temazepam is currently very common in the UK.

**Neonatal consequences**

Most people who misuse drugs are not drug dependent. The problem only becomes an addiction if abrupt discontinuation causes serious physical and mental symptoms to appear. This is, however, what can happen to the baby after birth. Babies who have been exposed to opiates throughout pregnancy, or to high sustained benzodiazepine usage, often exhibit a range of symptoms (see box) 12 to 72 hours after birth. **None** of these, on their own, need treatment, but treatment is called for if sucking is so incoordinate that tube feeding is required, if there is profuse vomiting, or watery diarrhoea, or the baby remains serious unsettled after two consecutive feeds despite gentle swaddling and the use of a pacifier.

<b>W</b>	Wakefulness
<b>I</b>	Irritability
<b>T</b>	Tachypnoea (>60/min)
<b>H</b>	Hyperactivity
<b>D</b>	Diarrhoea
<b>R</b>	Rub marks
<b>A</b>	Autonomic dysfunction
<b>W</b>	Weight loss
<b>A</b>	Alkalosis (respiratory)
<b>L</b>	Lachrymation (tears)

Many units currently admit such babies to special care for observation and then 'score' the child's condition once every four hours. However experience shows that an observer's views and their 'attitude' to drug misuse can influence the score awarded. Scores ask the observer to say how 'severe' the symptoms are. If the nurse or doctor has not cared for such a baby before, how can they decide on the severity of the symptoms? Scoring systems, though popular, are not very accurate (O'Brien *et al.*, 2004). They can also have the perverse effect of suggesting that an increasingly sedated baby is 'improving' when the real need is to get the baby feeding normally and sleeping normally.

A better approach is to make the mother aware, before delivery, that the baby will need to be watched for a period, to involve the mother in this, and to care for mother and baby together. Most already feel guilty about their drug habit, and live in constant fear of having their children taken from them. A knowledge of antenatal drug intake (even if accurate) is only of limited value in predicting whether the baby will develop symptoms, and mothers need to be aware of this. If mother and baby have been cared for together and, if no serious symptoms have developed by 72 hours, both can be discharged home together. There is some suggestion that people taking an opiate for severe pain seldom develop the problems seen in those taking it for 'recreational' purposes, and a recent paper by Sharpe and Kuschel (2004) now suggests that the same may be true for the baby. This is an important study that deserves replication because it could be that those using methadone to control addiction were also taking other drugs illicitly.

If symptoms serious enough to make the baby unwell do develop then the logical approach is to wean the baby slowly from the drug to which the mother is habituated, rather than compound the problem by introducing yet another new drug. Babies of mothers taking an opiate should be weaned using a slowly decreasing dose of morphine or methadone (Jackson *et al.*, 2004). Morphine is widely used, and the dose can be easily and rapidly adjusted up or down, but methadone may provide smoother control. Weaning should not normally take more than 7 to 10 days. The same approach can be used where the mother is addicted to buprenorphine, codeine or dihydrocodeine. The use of paragoric for the baby (a variable cocktail of opium, glycerin, alcohol and benzoic acid), or tincture of opium, lacks rational justification. Sublingual buprenorphine was used in one recent study (Kraft *et al.*, 2008), but was not significantly better than oral morphine. Benzodiazepine dependency is harder to manage using this strategy, because nearly all these drugs have such a long half life. Some clinicians use chloral hydrate in this situation but this can over-sedate the baby. Chlorpromazine is probably a better choice and this achieved weaning more quickly than a tapering dose of morphine in one recent small study (Cambonie *et al.*, 2008). For the occasional mother with barbiturate dependency, phenobarbital should be considered but, while this may provide sedation, it does nothing to control gastrointestinal symptoms. A Cochrane Review of such limited controlled trial evidence as there is suggests that giving phenobarbital (q.v.) for a few days as well as an opiate may sometimes speed the resolution of symptoms, particularly in babies born to polydrug users. A small dose of oral clonidine (1 microgram/kg by mouth once every four hours) was used in one recent small double-blind trial involving 80 babies, and this resulted in the babies being weaned slightly more rapidly from opiate use (Agthe *et al.*, 2009). Views will differ as to whether slightly faster weaning justifies the treatment a drug-dependent baby with yet another drug.

Although there have been 14 small controlled trials looking at strategies for managing neonatal withdrawal, the assessors have generally merely looked to see how many symptoms there were rather than how distressing and disabling the symptoms were. In addition, the assessors have usually been aware of how the babies were being treated. There is scope for much useful nursing research here.

Screening urine, or meconium, for drugs serves little purpose unless serious thought is being given to care proceedings, since it is unlikely to influence management. If you tell the mother you plan to do this, you imply that you do not believe what she has told you about her drug history. If you tell her later, she will merely conclude that you are another person she can not trust. The decision of any child protection conference, or court, will be influenced purely by what is best for the child, and by the mother's ability to provide that care. Drug misuse is not in itself a sufficient reason to separate mother and child.

Babies can also become addicted to opiates and benzodiazepines *after* birth. Fentanyl and midazolam are the drugs that most often cause problems. Continuous use for even a few days can produce tolerance (the need for a progressively larger dose) and dependency (addiction). Management is the same as for addiction acquired *in utero* – a slow tapered withdrawal of treatment. Perhaps paediatricians should do what we tell mothers to do, and avoid the sustained use of these particular drugs all together.

### **Withdrawal symptoms after antidepressant use in pregnancy**

It is becoming increasingly clear that almost all the antidepressant drugs in common use can sometimes trigger acute withdrawal symptoms in the baby shortly after birth. Agitation, tremor and restlessness seem to be the commonest symptoms. They are seldom severe, and seldom last much more than a week, but their appearance can cause acute distress and anxiety if the signs are wrongly interpreted as evidence that the baby has suffered asphyxial stress during delivery. They seldom call for more than symptomatic management, and it is seldom appropriate to treat symptoms caused by one drug with yet another drug, but brief sedation with chlorpromazine may occasionally be helpful.

### **Breastfeeding**

Breastfeeding can be encouraged in the period immediately after birth even if the mother has been taking several drugs, since these babies seem to show fewer features of withdrawal (Dryden *et al.*, 2009). Neither is there any need to place any arbitrary limit on the length of time the mother is 'permitted' to breast feed. It should, however, be explained that weaning ought to be gradual. No baby should be left in the care of anyone taking a hallucinogen, and few would condone the possible exposure of a baby to such a drug in

breast milk. Indeed there must always be some concern for the safety of any baby left in the sole care of any mother who is abusing several drugs. The place of breastfeeding in mothers taking other drugs is reviewed in the section of this book on 'maternal medication and the baby.'

### Further reading

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