

## The dental aspects of treating a patient with substance misuse problems

Patients with a substance misuse problem have special dental needs. There are specific conditions associated with particular types of drug use. In addition, substance misusers are more likely to experience dental anxiety. This may be because many patients with substance misuse problems have not previously sought regular dental care, tending to attend only when in pain. Chaotic lifestyles associated with substance misuse do not favour regular dental or medical care. Lifestyle habits contribute to poor dental health as well as substance misuse<sup>1</sup>. There is also evidence that substance misusers report difficulty accessing dentistry<sup>2</sup>.

Common first line action for a patient with a substance misuse problem and dental pain is to continue or increase their drug use pattern. This masks the pain and makes attendance for dental intervention unlikely. Reports of patients increasing their drug use, self medicating and even attempting self dentistry are not unusual. It is common for a patient wishing to cease their drug use to experience dental pain as they detox <sup>1</sup>. Forced withdrawal from a drug habit upon entry to prison is a prime example of this scenario. Access to dental services are therefore important when detoxing in any situation to decrease the risk of relapse due to dental pain.

There is some evidence that substance misusers have a low pain tolerance <sup>3</sup>. This together with increased incidence of dental anxiety (and indeed other mental health issues) makes access to experienced dentists important. It is critical that dental treatment of substance misusers and those undertaking detox incorporates careful pain relief, good local anaesthetic techniques and an understanding clinician to allow a positive experience which will not reinforce any dental anxiety. Dental treatment plans are likely to be interrupted due to frequent episodes of pain and a flexible approach is therefore essential.

The main reasons for increased dental need and other orodental disease in substance misusers include:

- carbohydrate cravings
- use of carbohydrate additives in drug mix
- masking of dental pain
- poor nutrition
- xerostomia (dry mouth)<sup>3</sup>
- Lack of dental hygiene

### Tobacco

There is a strong association between substance misuse and tobacco use. Tobacco use is well known to be associated with high incidence of oral cancer. Over 90% of oral cancer is oral squamous cell carcinoma (OSCC). Most affect the lip, tongue and floor of mouth area. Patients who are substance misusers are more likely to exhibit other risk factors for oral cancer, such as alcohol use and diets poor in

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<sup>1</sup> Robinson PG, Acquah S and Gibson B. (2005) Drug users: oral health-related attitudes and behaviours. Br Dent J 2005; 198: 219-224

<sup>2</sup> Sheridan J, Aggleton M, Carson T (2001) Dental Health and access to dental treatment: a comparison of drug users and non-drug users attending community pharmacies. Br Dent J 2001; 191: 453-457.

<sup>3</sup> Meechan JG (1999) Drug Abuse and Dentistry, Dent Update 1999; 26: 182-190

fruits and fibre. The combined use of alcohol and tobacco produces a multiplicative (not additive) risk. The risk of oral squamous cell carcinoma is 80 times greater in a patient showing high levels of tobacco and alcohol use<sup>4</sup>. All patients should therefore be screened for soft tissue health as a consultation with a current or previous substance misuser may be their first for many years. Prognosis of OSSC is directly related to its stage at diagnosis.

Tobacco also has a well documented negative affect on gingival health, being a risk factor for both acute necrotizing ulcerative gingivitis and adult periodontitis. This association is largely due to vasoconstriction caused by nicotine use. As a result, healing rates in smokers may be increased and gingival bleeding decreased. Incidence of alveolar osteitis (post extraction dry socket) is also higher in smokers.

## **Alcohol**

With alcohol being the most widely used drug in the UK it is likely that the majority of substance misusers also use alcohol. There is a higher rate of non carious tooth surface loss in high alcohol users<sup>5</sup>. This may be due to chemical erosion of alcohol and/or its mixers or due to gastric reflux caused by alcohol use.

Incidence of trauma is an obvious complication of high alcohol use. Facial injuries and mandibular fractures requiring surgical repair are common as a result of assaults/ fights which are often alcohol/ drug related. A tooth out of the occlusal plane or causing recurrent unexplained infection can be occasional presenting features of an undetected jaw fracture.

## **Cocaine**

The relationship between the snorting of cocaine and nasal problems such as epistaxis and nasal septum perforation is well known.

Bruxism is common in cocaine users and this can result in temporomandibular joint disorder (TMJ) pain<sup>6</sup>. This can be seen in surgery with flattening of occlusal surfaces and tenderness of the muscles of mastication.

It has also been suggested that caries incidence may be higher in cocaine users, due to the sugar added to pure cocaine<sup>7</sup>. Direct application of cocaine to the gingivae can produce non healing defects and localised bone loss and necrosis<sup>8</sup>. Cocaine is a cause of thrombocytopenia and there have been reports of spontaneous gingival bleeding in cocaine users<sup>9</sup>. As cocaine itself acts as an anaesthetic, care must be used when completing dental treatment under local anaesthetic in cocaine users

## **Heroin**

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<sup>4</sup> Franceschi S, Talamini R, Barra S et al. Smoking and drinking in relation to cancers of the oral cavity, pharynx, larynx and esophagus in northern Italy. *Cancer Res* 1990; 50: 6502-6507

<sup>5</sup> Robb ND, Smith BGN (1990) Prevalence of pathological toothwear in patients with chronic alcoholism. *Br Dent J* 1990; 169:367-369

<sup>6</sup> Friedlander AH, Gorelick DA. Dental Management of the cocaine addict (1988). *Oral Surg Oral Med Oral Pathol* 1988; 65:45-48

<sup>7</sup> Driscoll SE (2002) A pattern of erosive lesions from cocaine use. *J Dent Res* 2002;81: A461

<sup>8</sup> Rees TD, Oral effects of drug abuse, *Crit Rev Oral Biol Med* 1992; 3: 163-184

<sup>9</sup> Burday MJ, Martin E. (1991) Cocaine associated thrombocytopenia. *Am J Med* 1991; 91: 656-660

Dental treatment of opioid substance misusers is often complicated by endocardial damage and infective endocarditis. Other complications for dental treatment include thrombocytopenia and poor pain tolerance. Clotting problems secondary to liver disease due to viral infection can cause problems with haemostasis.

There is disagreement in the field about the role of sugar containing methadone as a long term management for heroin dependence in causing widespread decay. Some studies suggest that decay is potentiated by xerostomic effects of methadone<sup>10</sup>, whilst others suggest that the sugar in methadone has little effect and that damage to opiate users teeth is caused issues of poor general health and diet<sup>11</sup>. Widespread availability of sugar free methadone can reduce risk, although dietary advice has a major role to reduce frequency of sugar consumption which may be a lifestyle habit developed during drug use. The high acid content of methadone makes erosion a risk. It is not advisable for patients using methadone to brush their teeth immediately after their methadone medication as this increases risk of chemical erosion. Use of a straw for ingestion of methadone should be encouraged to minimise contact with enamel. Use of high fluoride prescription toothpaste (e.g. 2,500ppm or 5,000ppm) which can be prescribed<sup>12</sup>, is recommended as a caries prevention strategy

The pattern of caries in patients with a history of opiate use is generally cervical caries (around the gingival area of the teeth). Such cavities can be very difficult to restore.

### **Accessing dental services**

It is a recognised problem that substance misusers find accessing dentistry difficult. Care within general practice is possible but requires a knowledgeable and sympathetic clinician.

Current General Dental Practice contracts involve the meeting of UDA (units of dental activity) targets. The UDA system is based on the complexity of the dental treatment and not of the patient and is so not conducive to treatment of special patient groups such as substance misusers. The development of a working relationship with a local dentist with an interest in treating this patient group may well produce a positive benefit. However, the recognition of substance misusers requiring additional dental care by commissioners in the current NHS Dental contract may produce opportunity for clinicians to spend more time dedicated to this patient group.

Other opportunities for accessing dental services include Dental Access Centres, Community Dental Services and Dental Hospitals. It could be argued that access for this patient group requires the further attention of commissioners in many geographical areas.

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<sup>10</sup> Nathwani N and Gallagher J (2008) Dent Update 2008; 35: 542-548

<sup>11</sup> Gray R (2005) The Oral Effects of Methadone Use Network 10 SMMGP

<sup>12</sup> Both duraphat 0.619 and 1.1% are in the BNF. Reference p546 section 9.5.3 BNF September 2009.