GAMMA-HYDROXYBUTYRATE (GHB)-DEFICIENCY IN ALCOHOL-DEPENDENCE?
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I wish to propose a hypothesis that could help explain some of the effects of baclofen in alcohol dependence that are described in Dr. Bucknam’s case study (Bucknam, 2007) and in my self-case report (Ameisen, 2005). At a behavioural level, alcohol, baclofen and GHB all share sedative/hypnotic effects in humans. Clinical trials have shown baclofen to reduce anxiety in alcoholic (Krupitsky et al., 1993; Addolorato et al., 2002) and non-alcoholic (Breslow et al., 1989; Drake et al., 2003) patients alike. And somnolence is an overwhelmingly prevalent side effect of baclofen. Yet unlike other sedative/hypnotics (benzodiazepines, meprobamate, barbiturates), baclofen and GHB have been specifically shown to reduce craving in alcoholic patients (Addolorato et al., 2002; Caputo et al., 2003; Nava et al., 2006). In animals, effects of baclofen on anxiety are more heterogeneous. While some studies demonstrate that baclofen has sedative activity (Carai et al., 2004), lack of anxiolytic activity (Dalvi and Rodgers, 1996) and even anxiogenic actions (Car and Wisniewska, 2006) have also been reported. Also, while there are reports showing baclofen to increase severity of alcohol withdrawal in animals (Humeniuk et al., 1994), the efficacy of baclofen in the treatment of acute withdrawal syndrome has been shown to be comparable to that of diazepam in clinical trials (Addolorato et al., 2006). In mice, Carai et al established that the sedative/hypnotic effect of GHB is, like that of baclofen, mediated by the stimulation of GABA(B) receptors (Carai et al., 2001) which adds support to the hypothesis that the GABA(B) receptor constitutes a central site of action of GHB. Functionally, both baclofen and GHB increase a potassium current and decrease the H-current in hippocampal neurons via GABA(B) receptor (Schweitzer et al., 2004). Of alcohol, GHB and baclofen, only one is a naturally occurring molecule: GHB. This leads me to raise the hypothesis that a molecule: GHB. This leads me to raise the hypothesis that a

REFERENCES