

The Dark Side of Oxytocin

July 29, 2011

For a hormone, oxytocin is pretty famous. It's the "cuddle chemical"—the hormone that helps mothers bond with their babies. Salespeople can buy oxytocin spray on the internet, to make their clients trust them. It's known for promoting positive feelings, but more recent research has found that oxytocin can promote negative emotions, too. The authors of a new review article in *Current Directions in Psychological Science*, a journal of the Association for Psychological Science, takes a look at what oxytocin is really doing.

Oxytocin's positive effects are well known. Experiments have found that, in games in which you can choose to cooperate or not, people who are given more oxytocin trust their fellow players more. Clinical trials have found that oxytocin can help people with autism, who have trouble in social situations. Studies have also found that oxytocin can increase altruism, generosity, and other behaviors that are good for social life.

But the warm fuzzy side of oxytocin isn't the whole story. "Quite a number of studies have shown it's actually not that simple," says Andrew Kemp of the University of Sydney, who cowrote the paper with his colleague Adam Guastella. Recent studies have found that people who were given oxytocin, then played a game of chance with a fake opponent, had more envy and gloating. These are also both social emotions, but they're negative. "It kind of rocked the research world a little bit," Kemp says. That led some researchers to think that oxytocin promotes social emotions in general, both negative and positive.

But Kemp and Guastella think oxytocin's role is slightly different. Rather than supporting all social emotions, they think it plays a role in promoting what psychologists call approach-related emotions. These are emotions that have to do with wanting something, as opposed to shrinking away. "If you look at the Oxford English Dictionary for envy, it says that the definition of envy is to wish oneself on a level with another, in happiness or with the possession of something desirable," Kemp says. "It's an approach-related emotion: I want what you have." Gloating is also about approach, he says; people who are gloating are happy—a positive, approach-related emotion—about having more than their opponent and about that person's misfortune.

If Kemp and Guastella are right, that could mean that oxytocin could also increase anger and other negative approach-related emotions. That could have important implications for people who are studying how to use oxytocin as a psychiatric treatment. "If you were to take a convicted criminal with a tendency towards aggression and give him oxytocin to make him more social, and if that were to enhance anger as opposed to suppressing anger, then that has very substantial implications," Kemp says.

Further research will show more about what emotions are promoted by oxytocin, Kemp says. "This research is really important because we don't want to go ahead and attempt to treat a range and variety of psychiatric disorders with oxytocin without fully understanding the impact this may have on emotion and mood."