

Research suggests mechanism for acne drug's link to depression

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New research has found that a drug used to treat severe forms of acne reduces the availability of the chemical serotonin, low levels of which have been linked to aggression and clinical depression.

In a study published in the journal *Experimental Biology and Medicine*, scientists reveal a potential mechanism that might link the drug Roaccutane (Accutane in the US) to reported cases of depression in some patients taking the medication.

The researchers had previously reported that the drug caused depressive behaviour in mice but, until now, the mechanism by which this might happen was unknown.

Using cells cultured in a laboratory, scientists from the University of Bath (UK) and University of Texas at Austin (USA) were able to monitor the effect of the drug on the chemistry of the cells that produce serotonin.

They found that the cells significantly increased production of proteins and cell metabolites that are known to reduce the availability of serotonin.

This, says scientists, could disrupt the process by which serotonin relays signals between neurons in the brain and may be the cause of depression-related behaviour.

“Serotonin is an important chemical that relays signals from nerve cells to other cells in the body,” said Dr Sarah Bailey from the Department of Pharmacy & Pharmacology at the University of Bath.

“In the brain it is thought to play an important role in the regulation of a range of behaviours, such as aggression, anger and sleep.

“Low levels of serotonin have been linked to depression, as well as bipolar and anxiety disorders.

“Many medications aimed at treating depression seek to increase levels of serotonin to help overcome these problems.

“Our findings suggest that Roaccutane might disrupt the way serotonin is produced and made available to the cells.

“This could result in problems associated with low levels of serotonin, which might include depression.

“We are currently looking into this mechanism in more detail.”

Source: University of Bath

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