9 August 2011 Last updated at 00:39

**BBC**

**Modified ecstasy 'attacks blood cancers'**

By James Gallagher Health reporter, BBC News

Modified ecstasy could one day have a role to play in fighting some blood cancers, according to scientists.

Ecstasy is known to kill some cancer cells, but scientists have increased its effectiveness 100-fold, they said in Investigational New Drugs journal.

Their early study showed all leukaemia, lymphoma and myeloma cells could be killed in a test tube, but any treatment would be a decade away.

A charity said the findings were a "significant step forward".

In 2006, a research team at the University of Birmingham showed that ecstasy and anti-depressants such as Prozac had the potential to stop cancers growing.

The problem was that it needed doses so high they would have been fatal if given to people.

The researchers, in collaboration with the University of Western Australia, have chemically re-engineered ecstasy by taking some atoms away and putting new ones in their place.

One variant increased cancer-fighting effectiveness 100-fold.

It means that if 100g of un-modified ecstasy was needed to get the desired effect, only 1g of the modified ecstasy would be needed to have the same effect.

Scientists say this also reduced the toxic effect on the brain.

Lead researcher Professor John Gordon, from the University of Birmingham, told the BBC: "Against the cancers, particularly the leukaemia, the lymphoma and the myeloma, where we've tested these new compounds we can wipe out 100% of the cancer cells in some cases.

"We would really need to pinpoint which are the most sensitive cases, but it has the potential to wipe out all the cancer cells in those examples.

"This is in the test tube, it could be different in the patient, but for now it's quite exciting."

'Soapy' cells

It is believed that the drug is attracted to the fat in the membranes of the cancerous cells.

Researchers think it makes the cells "a bit more soapy", which can break down the membrane and kill the cell.

They said cancerous cells were more susceptible than normal, healthy ones.

However, doctors are not going to start prescribing modified ecstasy to cancer patients in the near future.

The research has been demonstrated only in samples in a test tube.

Animals studies and clinical trials would be needed before prescribing a drug could be considered.

First, however, chemists in the UK and Australia are going to try to tweak the modified ecstasy even further as they think it can be made even more potent.

'Genuinely exciting'

If everything is successful, a drug is still at least a decade away.

Dr David Grant, scientific director of the charity Leukaemia and Lymphoma Research, said: "The prospect of being able to target blood cancer with a drug derived from ecstasy is a genuinely exciting proposition.

"Many types of lymphoma remain hard to treat and non-toxic drugs which are both effective and have few side effects are desperately needed.

"Further work is required but this research is a significant step forward in developing a potential new cancer drug."

DAILY MAIL (London)

August 19, 2011 Friday

**ECSTASY 'MAY HELP TO FIGHT** **CANCERS OF THE BLOOD'**  
  
**BYLINE:** DAILY MAIL REPORTER  
  
**LENGTH:** 223 words

ECSTASY could be used to treat cancers of the blood, according to scientists.

Modified versions of the dance club drug may help to fight leukaemia, lymphoma and myeloma.

Six years ago researchers found that cancers affecting white blood cells responded to psychotropic drugs including ecstasy, weight-loss pills and anti-depressants.

The University of Birmingham team has now adapted ecstasy to be 100 times deadlier to cancerous cells.

Further work could lead to ecstasy, which is an amphetamine derivative properly known as MDMA, being trialled on patients.

Dr David Grant, of the charity Leukaemia and Lymphoma Research, which helped fund the study, said: 'The prospect of being able to target blood cancer with a drug derived from ecstasy is genuinely exciting.

This is a significant step.'

Professor John Gordon, from the university's School of Immunology and Infection, said it was 'an exciting step', adding: 'The results hold the potential for improvements in treatments in years to come.'

He said the scientists had their work cut out adapting ecstasy.

Research showed that the dose needed to treat a tumour was fatal, so they had to isolate its cancer-killing properties.

In a report in the journal Investigational New Drugs, Professor Gordon said his team was looking at ways to help MDMA molecules penetrate cancer cell walls more easily.

Daily Star

August 19, 2011 Friday   
Edition 1;   
National Edition

**E fights cancer**  
**SECTION:** NEWS; Pg. 2  
  
**LENGTH:** 33 words

DANCE drug ecstasy is being developed to fight cancers such as leukaemia.

A Birmingham University team found that modified forms of the rave drug boosted its ability to destroy cancerous cells 100-fold.

Independent.co.uk

August 19, 2011 Friday 12:00 AM GMT

**Form of Ecstasy may help to combat cancer**  
  
**BYLINE:** By John von Radowitz  
  
**SECTION:** SCIENCE  
  
**LENGTH:** 197 words

Modified forms of the drug Ecstasy may be effective against leukaemia, lymphoma and myeloma, early research has suggested.

Six years ago scientists found that cancers affecting white blood cells appeared to respond to certain "psychotropic" drugs.

These included weight-loss pills, Prozac-type anti-depressants and amphetamine derivatives such as MDMA, commonly known as Ecstasy.

Today the same team at the University of Birmingham revealed that specially modified forms of Ecstasy boosted the drug's ability to destroy cancerous cells 100 times.

Further work could lead to MDMA derivatives being used in patient trials.

Professor John Gordon, from the university's School of Immunology and Infection, said: "This is an exciting next step towards using a modified form of MDMA to help people suffering from blood cancer.

While we would not wish to give people false hope, the results of this research hold the potential for improvements in treatments."

Adapting Ecstasy for use as a cancer drug was problematic at first.

Research showed the dose of MDMA needed to treat a tumour would be fatal.

To overcome this, the scientists set about isolating the drug's cancer-killing properties.

Metro (UK)

August 19, 2011 Friday   
Edition 1;   
Scotland

**Ecstasy 'key to treating leukaemia'**  
  
**BYLINE:** Fred Attewill  
  
**SECTION:** NEWS; Pg. 32  
  
**LENGTH:** 287 words

ECSTASY is being developed as a possible treatment for cancer, it has been revealed.

The popular club drug could help fight blood cancers - such as leukaemia, lymphoma and myeloma - after tests confirmed previous research that white blood cells appeared to respond to certain 'psychotropic' drugs.

It means modified versions of the class A amphetamine - known scientifically as MDMA - can boost the drug's ability to destroy cancerous cells by 100 times.

'This is an exciting step towards using a modified form of MDMA to help people suffering from blood cancer,' said Prof John Gordon, from the University of Birmingham.

'While we do not wish to give people false hope, the results of this research hold the potential for improvements in treatments in years to come.'

It is hoped further research could lead to patient trials, while Prof Gordon added his team was already looking at ways to make 'even more potent' forms of MDMA to penetrate cancer cell walls more easily.

Adapting ecstasy for use as a cancer drug initially presented serious problems, as the dose of MDMA needed to treat a tumour would have proved fatal to the patient.

However, with scientists able to isolate the drug's cancer-killing properties, Dr David Grant - of the charity Leukaemia and Lymphoma Research, which helped fund the study - insisted there was hope for sufferers of the most aggressive blood cancer.

He said: 'Many types of lymphoma remain hard to treat and non-toxic drugs which are both effective and have few side effects are desperately needed.

'The prospect of being able to target blood cancer with a drug derived from ecstasy is a genuinely exciting proposition.'

The findings are published today in the journal Investigational New Drugs.

The Daily Telegraph (London)

August 19, 2011 Friday   
Edition 1;   
National Edition

**Ecstasy could be used to treat cancer sufferers;**   
In Brief  
  
**SECTION:** NEWS; Pg. 9  
  
**LENGTH:** 76 words

Ecstasy could be used to cure cancer after scientists modified the drug to increase its tumour-killing properties.

Researchers from Birmingham University claimed the designer drug could be used to treat leukaemia, lymphoma and myeloma after making it 100 times more effective at suppressing tumour growth.

Ecstasy was already known to be effective against white blood cell cancers, but previously the dose required to treat a tumour would have killed the patient.

The Express

August 19, 2011 Friday   
U.K. 1st Edition

**Clubbers' drug Ecstasy is set to treat cancer**  
**BYLINE:** By Jo Willey Health Correspondent  
  
**SECTION:** NEWS; 22  
  
**LENGTH:** 373 words

THE designer drug Ecstasy has been developed into a potent medical treatment that could be the key to tackling blood cancers.

It may help save thousands of lives each year.

Scientists at the University of Birmingham have discovered that a reworked form of the drug MDMA - commonly known as Ecstasy - has potential as a cancer-killing agent for treating leukaemia, lymphoma and myeloma.

Research published online in the j ournal Investigational New Drugs reveals significant success in "redesigning the designer drug" which they now hope can be produced in a safe form to treat patients.

Six years ago scientists at the university found that half of the cancers affecting white blood cells responded in the test tube to the growth-suppressing properties of "psychotropic" drugs.

These included weight loss pills, Prozac-type anti-depressants, and amphetamine derivatives such as MDMA.

Professor John Gordon, of the university's School of Immunology and Infection, said: "This is an exciting next step towards using a modified form of MDMA to help people suffering from blood cancer.

While we would not wish to give people false hope, the results of this research hold the potential for improvements in treatments in years to come."

Dr David Grant, scientific director of the charity Leukaemia & Lymphoma Research, which part-funded the study, said: "The prospect of being able to target blood cancer with a drug derived from Ecstasy is a genuinely exciting proposition.

"Many types of lymphoma remain hard to treat and non-toxic drugs which are both effective and have few side-effects are desperately needed.

"Further work is required but this research is a significant step forward in developing a potential new cancer drug."

According to the latest statistics almost 12,000 people are diagnosed with blood cancers.

They kill nearly 26,000 each year.

Chemotherapy is currently the main course of treatment for blood cancers.

But in many cases it will fail because the cancer cells have developed defences against the drugs.

One of the major problems in creating new treatments for blood cancers is that high levels of a key protein called BCL2 protect the cancer cells from being killed.

The new Ecstasy-based treatment can bypass this defence mechanism.

The Mirror

August 19, 2011 Friday   
3 Star Edition

**E TO FIGHT BIG C;   
RAVE DRUG AIDS WAR ON DISEASE**  
  
**BYLINE:** LACHLAN MACKINNON  
  
**SECTION:** NEWS; Pg. 24  
  
**LENGTH:** 197 words

YOU'D never have thought an illegal rave drug could hold the key to beating cancer.

But scientists yesterday revealed ecstasy is being developed as a treatment for tumours.

They believe a modified version of the party popper could beat blood cancers such as leukaemia and lymphoma.

Prof John Gordon, head of the researchers at Birmingham University, said: "This exciting development holds the potential for improvements in treatments."

Six years ago the team found that blood cancers responded to certain psychotropic drugs including weight loss pills, anti-depressants and ecstasy.

But the modified version is 100 times more effective at killing cells than the standard.

The Leukaemia and Lymphoma Research charity welcomed the breakthrough.

Scientific director Dr David Grant said: "The prospect of being able to target blood cancer with a drug derived from ecstasy is exciting.

Effective drugs are badly needed."

The dose of ecstasy needed to treat tumours would be fatal.

But scientists isolated its cancer killing properties to form the new drug.