Date Published: 27/06/2011

Word Count Title: 10

Word Count Body: 427

Sentence Count: 23

DAILY MAIL (London)

June 27, 2011 Monday

A 'WONDER DRUG' THAT COULD KILL ALL TYPES OF CANCER  
  
**BYLINE:** BY FIONA MACRAE SCIENCE CORRESPONDENT  
  
**LENGTH:** 435 words

A BREAST cancer 'wonder drug' could be turned into a universal weapon against tumours, British scientists said last night.

They have discovered a way of making a family of breast cancer pills effective against other cancers.

The finding could lead to new drugs that shrink many Ð or even all types Ð of tumour, the Newcastle University scientists said.

In addition, side-effects such as nausea and tiredness should be minimal.

The excitement centres on a family of cancer drugs known as PARP inhibitors, which affect the way tumour cells repair themselves.

These target hereditary forms of breast cancer, as well as ovarian prostate cancers and pancreatic tumours with the same rogue gene.

The drugs are of particular interest to doctors because they zero in on the tumour, and kill it without harming healthy cells.

This means patients suffer fewer side effects than they would with chemotherapy or radiotherapy, in which healthy cells are affected.

The drugs exploit the 'Achilles'' heel' of hereditary forms of breast cancer. This is caused by a flaw in a gene called BRCA1, which limits the cells' ability to repair damage their DNA.

Healthy cells have two ways of patching up damage Ð which allows them to breed, grow and spread Ð but cells in BRCA tumours only have one.

PARP inhibitors block this remaining pathway, stopping the tumour cells from multiplying, eventually leading them to die.

Some breast, ovarian and prostate tumours have flawed BRCA genes Ð but account for a small proportion of all cancers.

The research would allow the drugs to be used on tumours which do not have this genetic flaw, by effectively 'recreating' the defect.

In experiments on mice with lung tumours the researchers showed that blocking a molecule called Cdk1 also stopped DNA repair.

When the animals were given a PARP inhibitor, it successfully shrunk their cancer, the journal Nature Medicine reports.

Researcher Professor Nicola Curtin said: 'Blocking Cdk1 compromises DNA repair in cancer cells, making them sensitive to PARP inhibitors.

'We were also able to show that this approach only targeted cancer cells.

'Now we need to develop an effective drug that can block Cdk1, so more patients can benefit from treatment with PARP inhibitors.

It could be widely applicable, possibly universally.

'The very fact that the defect that makes cells vulnerable to PARP inhibitors can be recreated in lung cancer is pretty hopeful.

'It is very early days but it is exciting.'

Dr Lesley Walker, from Cancer Research UK, which funded the research, said: 'We could have a powerful new tool to treat cancer patients.'

[fiona.macrae@dailymail.co.uk](mailto:fiona.macrae@dailymail.co.uk)

Date Published: 27/06/2011

Word Count Title: 5

Word Count Body: 147

Sentence Count: 6

The Express

June 27, 2011 Monday   
U.K. 1st Edition

New drug to shrink tumours  
  
**BYLINE:** By Jo Willey Health Correspondent  
  
**SECTION:** NEWS; 27  
  
**LENGTH:** 144 words

SCIENTISTS are a step closer to a new wonder drug to treat **cancer.**

Chemotherapy, radiotherapy or the need for surgery could become a thing of the past thanks to a new range of "smart" drugs known as **PARP** **inhibitors** which target **cancer** cells.

Their discovery three years ago was hailed as ground-breaking because of their ability to treat a third of **patients** with common forms of the disease including breast, prostate, skin, ovarian, womb and colon **cancers.**

The treatment was found to dramatically shrink tumours without harming surrounding healthy cells.

Now scientists at Newcastle University and Harvard in the US have found a way to use the treatment for any **cancer** by improving the range of **PARP** **inhibitors** by blocking a key component of the DNA repair process.

Dr Lesley Walker of **Cancer** Research UK said: "We could have a powerful new tool to treat **cancer patients.**"