# Solving the 50-year-old puzzle of thalidomide

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Research into the controversial drug thalidomide reveals that the mechanism through which the drug causes limb defects is the same process which causes it to damage internal organs and other tissues. The article, published in *Bio-Essays*, outlines the challenges surrounding thalidomide research and claims that confirmation of a 'common mechanism' could lead to new treatments for Leprosy, Crohn's Disease, AIDS and some forms of cancer.

Thalidomide was used in over 46 countries following its launch in 1957, but its side effects led to over 10000 children being born with birth defects and the drug was subsequently banned in 1962. However, the drug is now experiencing a renaissance worldwide, particularly across Africa and South America where new cases of thalidomide-induced limb defects are now occurring. This, argues Dr Neil Vargesson of the University of Aberdeen, raises the urgency for research which can target and isolate the drug's negative side effects.

"The mere mention of thalidomide instils fear in some people to this day as it caused the biggest medical disaster in history," said Vargesson. "However it still raises hopes for the treatments of diseases such as Leprosy and multiple myeloma."

Dr Vargesson and his team were the first to demonstrate how the drug causes limb defects by targeting immature blood vessels and now this latest article attempts to link all previous models of thalidomide action together to create one central model. This model proposes that all thalidomide associated defects could be caused by the same 'common

mechanism', primarily an effect on angiogenesis, the growth of new blood vessels.

The understanding that the drug's targeting of blood vessels is a 'common mechanism' and the root cause of thalidomide's other side effects raises the possibility of producing a safer form of the drug which can isolate this mechanism and retain clinical benefits.

"Understanding this mechanism resolves a 50-year-old puzzle," concluded Vargesson, "it answers the questions asked by scientists since the first cases were identified in 1958. The possibility of producing analogues of the drug for targeting specific conditions without the devastating side effects is now a very real possibility."

Source: Wiley (news : web)