Scientists reported several setbacks in the quest for a cure to AIDS on Tuesday, highlighting concerns about inconclusive evidence that links a promising new drug to birth defects.

According to research presented at the 22nd International AIDS Conference in Amsterdam, four cases of "neural tube" defects were recorded among the pregnancies of 426 HIV-positive women in Botswana who took the drug dolutegravir before conception.

Birth defects
Neural tube defects cause severe brain and spinal deformities in the first weeks after conception, and often lead to stillbirth.

The cases amount to a ratio of nearly one defect per 100 pregnancies, compared to the average population rate of about one per 1,000, researcher Rebecca Zash of the Harvard TH Chan School of Public Health explained.

The defects were observed between August 2014 and May this year.

There have been no new reports among the 170 dolutegravir pregnancies monitored since, but "I don't think we can take much reassurance" from that, Ms. Zash said.

Four birth defects in 596 pregnancies was "still seven times higher than other groups, and statistically significant", she added.

Dolutegravir is a relatively new HIV-suppressor with fewer side-effects and believed to be less likely to spark drug resistance in patients.

Botswana was the first country to introduce dolutegravir as a first-line antiretroviral drug for all who need it, including women of childbearing age. "This puts a very definite bump in the road," International AIDS Society president Linda-Gail Bekker said, adding that conference organisers "scurried" to organise last-minute sessions to discuss the consequences of the Botswana results.

Waiting game
Pending clarification, global health agencies have advised that HIV-positive women planning a family should use other antiretrovirals instead.

On the cure front, there was some bad news too.

A trial to test a new strategy to "kick" the AIDS-causing HIV virus out of its hiding place in human cells, then "kill" it, yielded a disappointing outcome.

Researchers tested the effects of several medicines on top of standard ART in a trial with 60 men recently diagnosed with HIV.

Volunteers received two vaccines meant to coach the body's immune system to recognise HIV, and another drug to "wake up" the reservoir cells hiding the virus, forcing it to reveal itself and be attacked by the body's own defences. But trial participants who received these drugs had no different outcome to those on standard ART, said Sarah Fidler, a professor of HIV medicine at Imperial College London who took part in the research.

For scientists, "cure" means weakening HIV to a point where it poses no harm to the infected person and cannot be transmitted to others – allowing people to stop lifelong treatment.

"A cure remains a top scientific priority," said researcher Sharon Lewin, University of Melbourne.