Tinzaparin-drug used to treat blood clot and as anti-venom

Published On: 25-07-2024

Why in news?

Researchers found **tinzaparin**, a drug commonly **used to prevent blood clots,** significantly reduced damage to human cells caused by spitting cobra venom.

Mechanism:

Researchers grew human cells that had a gene removed.

These cells now couldn't manufacture a particular protein.

The cells were treated with venom and those that survived were selected.

The authors concluded the said gene facilitated the venom's effects

This gene is involved in the synthesis of **heparan sulphate**, which regulates blood vessels.

Introducing molecules that resembled heparan sulphate led the body to shut down pathways responsible for heparan sulphate synthesis. **One such molecule is tinzaparin**

The researchers hypothesised that if the venom's toxicity depended on the biological pathway that synthesised heparan sulphate, artificially stopping this pathway could ameliorate the venom's toxic effects.

When the team introduced tinzaparin immediately after subjecting cells to the snake venom, the cells survived. Tinzaparin could protect these cells even when it was introduced an hour after the cells had been exposed to the venom.

Advantage: **tinzaparin** — is inexpensive, widely available.