

Tinzaparin

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About Tinzaparin:

- It is a drug used to treat **serious blood clots**, and can reduce damage to cells due to spitting cobra venom.
- It is a **low-molecular-weight heparin** (LMWH) with antithrombotic properties.
- It is used for the treatment of **deep venous thrombosis**, a condition in which harmful blood clots form in the blood vessels of the legs.

Highlights of the research

- Tinzaparin worked by blocking the interaction between the venom and its receptor in the cell by binding to venom molecules.
- Snake Venom's toxicity depended on the biological pathway that synthesised **heparan sulphate**, artificially stopping this pathway could ameliorate the venom's toxic effects.
- One way of doing so is to introduce molecules that closely resemble heparan sulphate. As the body senses an excess of these molecules, it shuts down the pathways responsible for heparan sulphate synthesis. One such molecule is tinzaparin.
- When the team introduced tinzaparin immediately after subjecting cells to the snake venom, the cells survived.

What is heparan sulphate?

- It is found on the **surface of human and animal cells**. Heparin sulfate is released from our cells when our **immune systems respond to a threat**.
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Q1: What are Antivenoms?

These are purified antibodies against venoms or venom components. Antivenoms are produced from antibodies made by animals to injected venoms. Antivenom is the only definitive treatment for effective bites by venomous Australian snakes.

Source: Drug used to treat clots can protect against cobra venom damage

Source: <https://vajiramandravi.com/current-affairs/tinzaparin/>

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