

# POISONING BY RICIN INGESTION: MECHANISM, SYMPTOMS AND POSTMORTEM APPEARANCES

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## RESUMO

**Introduction:** Ricin is a toxic protein present in the seeds of *Ricinus communis*, known as castor plant. Ricin is said to be 6000 times more powerful than cyanide. The unbroken seeds are non-poisonous when swallowed and also when cooked. There is no available antidote for ricin, which evokes concern regarding its homicidal use and even as a weapon of bioterror. **Objective:** The objective of the present study was to review the poisoning's mechanism, symptoms, postmortem appearances when ingested and its importance for legal medicine. **Method:** The present study is a narrative bibliographic review and selected articles published in the last 5 years on the databases "Scielo" and "PubMed", using the descriptors "Ricin", "Toxicology" and "Postmortem changes". **Results:** Ricin blocks protein synthesis through the inhibition of RNA polymerase, it has a special binding protein that allows it to gain access to the endoplasmic reticulum in gastrointestinal mucosal cells causing severe diarrhoea, but it is poorly absorbed, with its full effect taking up to 5 days. The clinical symptoms are nonspecific when ricin is ingested: low blood pressure, hallucinations, seizures, burning of the oral mucosa, salivation, nausea, vomiting, bloody diarrhoea, severe abdominal pain, thirst, impaired sight, weak rapid pulse, cramps in calves and abdominal muscles, haemolysis, drowsiness and dehydration. The present work found out that in most of the case reports for the postmortem findings of *Ricinus communis* ingestion, the mucosa of the gastrointestinal canal is congested, softened and inflamed with occasional erosions and submucous haemorrhages. There might be a sign of dilation of the heart, haemorrhages in the pleura, pericardium, oedema of the liver, kidneys, spleen and lungs. Fragments of seeds also may be found in the stomach or intestines. **Conclusion:** As there are nonspecific laboratory findings for ricin poisoning, the legal medicine doctor should be aware for the clinical story of the diseased, as well as the postmortem findings on the autopsy for an accurate.

**PALAVRAS-CHAVE:** Forensic Toxicology, Legal Medicine, Poisoning, Ricin, *Ricinus communis*.

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