



ADVERSE EFFECTS OF SALICYLATES

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Annotation

Salicylates are medications used to treat pain, fever, and inflammation. Salicylates are one of the oldest and most commonly used non-steroidal anti-inflammatory drugs. Salicylates reduce fever by working on the brain's hypothalamus region, which regulates body temperature. Salicylates reduce inflammation by inhibiting the activity of enzymes known as cyclooxygenases (COX-1 and COX-2), essential for the biosynthesis of prostaglandin. Prostaglandin is a fatty compound produced all over the body except red blood cells. Prostaglandins have many functions that include initiating inflammation, protecting the stomach lining from stomach acids, maintaining kidney function, and regulating blood clotting.

Keywords: headache, dizziness, nephrotoxicity, allergic reactions.

Analgesic doses are generally well tolerated but anti-inflammatory doses are usually associated with adverse effects especially when used over a long period. GI tract: Nausea, epigastric distress, vomiting, erosive gastritis, peptic ulcer, increased occult blood loss in stools are common.

Nephrotoxicity: Almost all NSAIDs can cause nephrotoxicity after long-term use (analgesic nephropathy) Salt and water retention, with hypertension and impaired renal function with acute interstitial nephritis and acute papillary necrosis can occur.

CNS: Headache, dizziness and confusion.

Allergic reactions are not common and may be manifested as rashes, urticaria, pruritus, photosensitivity, rhinorrhoea, angioedema, and asthma especially in those with a history of allergies.

Respiratory system: As aspirin inhibits only cyclo-oxygenase pathway, arachidonic acid is available for conversion by lipoxygenase pathway into leukotrienes. Leukotrienes are powerful bronchoconstrictors. Hence aspirin can precipitate bronchial asthma in some individuals. Of the currently available NSAIDs,



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diclofenac and indomethacin inhibit the synthesis of both PGs and LTs. Hemolysis: Salicylates can cause hemolysis in patients with G6PD deficiency. NSAIDs can also rarely cause thrombocytopenia and neutropenia. Hepatotoxicity with hepatic necrosis and cholestatic jaundice can also occur when high doses of NSAIDs are used over a long period. Plasma levels of liver enzymes are raised.

Reye's syndrome seen in children is a form of hepatic encephalopathy which may be fatal. It develops a few days after a viral infection especially influenza and varicella. An increased incidence of this syndrome has been noted when aspirin is used to treat fever. Hence aspirin and other salicylates are contraindicated in children and young subjects hypertension. It can also increase post-partum bleeding due to inhibition of platelet aggregation.

Salicylism: Higher doses given for a long time as in treatment of rheumatoid arthritis may cause chronic salicylate intoxication termed 'salicylism'. The syndrome is characterised by headache, vertigo, dizziness, tinnitus, vomiting, mental confusion, diarrhoea, sweating, difficulty in hearing, thirst and dehydration. These symptoms are reversible on withdrawal of salicylates.

All in all, Some people develop stomach ulcers from taking NSAIDs. To reduce your risk of ulcers, always take NSAIDs with food (preferably, a full meal). While NSAIDs are effective for relieving symptoms, they don't help your body heal. In fact, research suggests that these medications can actually slow your body's natural healing process.

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