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# Toxic effect of amikacin sulphate on liver and kidney on white (Albino) rat

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Antibiotics are a family of medications used to treat against bacterial, fungal and parasitic infections. Numerous side effects are associated with antibiotic use and extremely high doses of antibiotics can have severe consequences. In present investigation, the approach was to study the effect of Amikacin sulphate on liver and kidney of albino rat. As this drug is reactive and the prolonged 9- days treatment to the albino rat created histopathological changes. It destroy the structure of hepatocytes, sinusoids, endothelial cells, Kuffer cells and bile canalicule in the hepatic cords. Where as in the kidney Bowman's capsule, glomerulus and their capillaries are degenerated. The cell wall of proximal convoluted tubule, loop of Henley's, distal convoluted tubule and collecting tubule are diminished. These effects are dose dependant. Due to this histopathological changes in liver and kidney will not perform their normal physiological functions. The excessive drug may destroy the liver and kidney, affect the physiology and at last leading to death of animal.

**Key words :** Toxicity, Amikacin sulphate, Albino rat, Histopathology

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## INTRODUCTION

The safe use of chemicals and their toxicities have to be tested, which make toxicological studies important in medicine. Mankind constantly exposed to different chemicals. The primary approach and development of this studies have been reviewed. (Zbinden, 1969 and Gupta, 1985). In present investigation the approach was to study the effect of Amikacin sulphate. Basically the alteration occurring in animals by the presence of the foreign compound. Administrations of chemicals cause such type of alteration in metabolism.

Amikacin sulphate an antibiotic helps to treat with the infection. The drug will be either injected in to large muscle such as hip or added to intravenous fluid that will drip through a needle or catheter placed in vein for at least 30 min. one to three times a day. Amikacin sulphate injection USP to be effective in bacterial septicemia in serious infection of the respiratory tract, bone joints, central nervous system, skin and urinary tract infection. Amikacin sulphate injection USP indicates that in the short term treatment of serious infections due to susceptible strains of gram -ve bacteria including *Pseudomonas* spp. *Escherichia coli* spp. of indole +ve and indole -ve Proteus *Providencia* spp. *Klebsiella Enterobacter serratia* spp. and *Acinetobactor* (*Mima Herellea*) spp. Amicacin sulphate is semi synthetic amino glycoside antibiotic derived from kanamycin. All amino glycosides have the potential to induce auditory, vestibular, renal toxicity and neuromuscular blockade.

## RESEARCH METHODOLOGY

The present investigation is designed to test the effect of Amikacin sulphate.

**Experimental animal:**

The male albino rats were used for experimental work weighing 175- 225 g. Albino rats were acclimatized under laboratory condition in standard housing system and are provided with food and water adlibitum, during experimental work. Amikacin sulphate was purchased from local chemist shop. 1- unit dose was given to the rat once in a day. Following experimental schedule gives the details of the experimental