IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 3, Issue 1, April 2023
Impact Factor: 7.301

Digitalis Historical Background and Current Status

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Abstract: *The earliest recorded treatment of digitalis is typically credited to William Witherings investigation on the foxglove, which was published in 1785. The rich background of digitalis is intriguing. Yet, there is evidence of some awareness of herbs used for remedies for heart failure with complications that have effects similar to those of digitalis dating back to roman times. In relation to this, the foxglove's natural components (Digitalis purpurea and Digitalis lanata) also include ouabain, a quick-acting glycoside typically derived from Strophanthus gratus. These substances are known as cardiotonic steroids. These medications are effective sodium-potassium adenosine triphosphatase antagonists. Digitalis as well as its metabolites, specifically digoxin, served as the gold standard of treatment for CHF during the duration of the 20th century. As the century came to a close, however, several concerns—particularly those related to ensuring enhanced safety—were raised regarding their usage as additional therapies for CHF, such as lowering the left ventricle's preload. An important medication used to treat cardiac arrhythmias and high blood pressure is still digitalis glycosides. The properties of the all cardioactive glycosides enhance the myocardial fibre contractile strength in a manner that is similar. Almost 100% of digoxin is absorbed, has a $T^{1/2}$ life of 5 to 7 days, and is mainly excreted in the urine as cardioinactive metabolites with just 8% of it being converted to digoxin. The inhibition of membrane Na^{+}/K^{+} ATPase and its resulting impacts on calcium movement are thought to be the reason behind this. Digitalis and certain medications can interact, most commonly with diuretics that cause hypokalaemia or hypomagnesaemia. The management of cardiac arrhythmias following digitalis toxicity is mainly possible by favourable interactions with antiarrhythmic pharmaceuticals (lignocaine, phenytoin), however the efficiency of other medications, such propranolol, is occasionally constrained by their adverse inotropic effects.*

Keywords: Digitalis, digitalis pharmacokinetics, Pharmacological actions, digitalis adulterants, digitalis toxicities

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