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"Development of Use of Medicinal Plants in Treatment of Chronic Pancreatitis"

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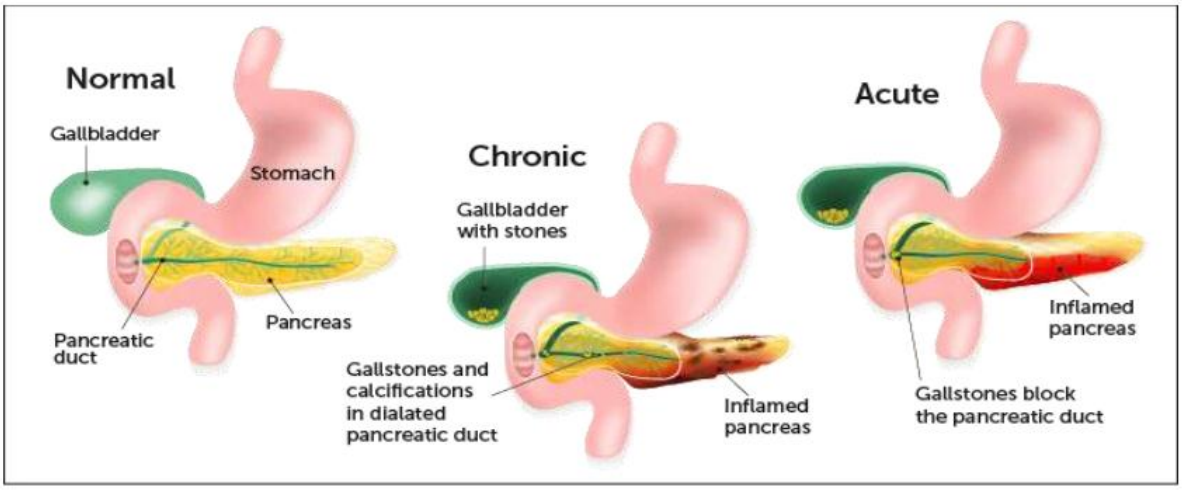
ANNOTATION

Pancreatitis is a disease in which the pancreas becomes inflamed. Pancreatic damage happens when the digestive enzymes are activated before they are released into the small intestine and begin attacking the pancreas. There are two forms of pancreatitis: acute and chronic. Of the many causes of pancreatitis, the most common are alcohol consumption and gallstones. Medicinal plants have essential role in Pancreatitis. This review focuses the various medicinal plants and their phyo-active constituent effect against pancreatitis.

The pancreas is about 6 inches long and sits across the back of the abdomen, behind the stomach. The head of the pancreas is on the right side of the abdomen and is connected to the duodenum (the first section of the small intestine) through a small tube called the pancreatic duct. The narrow end of the pancreas, called the tail, extends to the left side of the body. The pancreas is a large gland behind the stomach and next to the small intestine. The pancreas does two main functions. It releases powerful digestive enzymes into the small intestine to aid the digestion of food. It releases the hormones insulin and glucagon into the bloodstream. These hormones help the body control how it uses food for energy.

Pancreatitis is a disease in which the pancreas becomes inflamed. Pancreatic damage happens when the digestive enzymes are activated before they are released into the small intestine and begin attacking the pancreas. There are two forms of pancreatitis: acute and chronic. Acute pancreatitis is an acute inflammatory disorder of the pancreas caused by an intracellular activation of pancreatic digestive enzymes. The destruction of pancreatic parenchyma induces a systemic activation of coagulation, kinin, complement and fibrinolytic cascades with liberation of cytokines and reactive oxygen metabolites which, if severe and overwhelming, can lead to shock, acute renal failure and the acute respiratory distress syndrome. In approximately 45% of cases the disorder is associated with cholelithiasis, with ethanol abuse accounting for a further 35% of patients. In 10% of patients no cause may be found. In severe cases, acute pancreatitis can result in bleeding into the gland, serious tissue damage, infection, and cyst formation. Severe pancreatitis can also harm other vital organs such as the heart, lungs, and kidneys



Pancreatitis

Symptoms of Pancreatitis	
Acute pancreatitis	**Chronic pancreatitis**
Upper abdominal pain, Abdominal pain that radiates to your back, Abdominal pain that feels worse after eating, Fever, Rapid pulse, Nausea, Vomiting, Tenderness when touching the abdomen	Upper abdominal pain, Losing weight without trying & Oily, smelly stools (steatorrhea).

Pharmacological activity of medicinal plants is often known as a result of millennia of trial and error but they have to be carefully investigated if we wish to develop new drug that meet the criteria of modern treatment. Since time immemorial man has used various parts of plants in the treatment and prevention of many ailments. Historically all medicinal preparations were derived from plants, whether in the simple form of plant parts or in the more complex form of crude extracts, mixtures, etc. Today a substantial number of drugs are developed from plants which are active against a number of diseases. The majority of these involve the isolation of the active ingredient (chemical compound) found in a particular medicinal plant and its subsequent modification. In the developed countries 25 percent of the medical drugs are based on plants and their derivatives and the use of medicinal plants is well known among the indigenous people in rural areas of many developing countries. Various medicinal plants and their Phytoceuticals used against Pancreatitis Carvacrol (5-isopropyl-2-methylphenol) is a biologically active monoterpene phenol abundantly present in the essential oils of many Lamiaceae aromatic/ethnomedicinal plants.

The toxic and beneficial (in a dose of 10 mg/kg) properties of carvacrol were assessed by measuring serum α-amylase and lipase activities, tissue malondialdehyde (MDA) content, and pathohistological changes in pancreatic tissue. Euphorbia kansui is a well-known traditional Chinese medicine.

Euphorbia kansui is a Traditional Chinese Medicine widely used for the treatment of oedema, ascites and asthma. However, its serious hepatotoxicity hinders its safe clinical application. Effects of euphorbia kansui on serum levels of inflammatory factors in patients with severe acute pancreatitis were investigated, and the mechanisms underlying the role of Euphorbia kansui in the treatment of severe acute pancreatitis. According to the experimental results, euphorbia kansui effectively reduced the expression of inflammation related cytokines, such as NF-κB, TNF-α, sTNFR, IL-6, and IL-8, in the serum of patients with severe acute pancreatitis. It was also proposed that euphorbia kansui slowed down the release of inflammatory factors and treated SAP by inhibiting the activation of the NF-κB signaling pathway. Ammi visnaga belongs to the family Apiaceae and it is a herbaceous medicinal plant. Many times, A. visnaga is weed as well as used in many countries as herbal medicine for different purposes. Ancient records reveal various medicinal properties of A. visnaga as

a popular source to cure variety of different ailments. The plant is used directly as a herb or as a component for production of a number of herbal medicines used in the cure of renal colic, ureteric stones, angina pectoris, the coronary vessels, cardiovascular disorders and asthma. Also it is used as a folk medicine for vitiligo and psoriasis.

Visnagin is an organic chemical compound with the molecular formula C13H10O4 It is a furanochromone, a compound derivative of chromone (1,4-benzopyrone) and furan.

The studied was carried on vasnagin against acute pancreatitis(AP). Visnagin mid dose (30 mg/kg), visnagin high dose (60 mg/kg) and visnagin control (60 mg/kg). AP was induced by six injections of cerulein (50 μg/kg, i.p.) on the 7th day and the animals were sacrificed after 6 h of last cerulein dose. Visnagin was found to be effective in reducing plasma amylase and lipase levels, reduced cerulein induced oxidative stress. Visnagin dose dependently decreased the expression of IL-1β, IL-6, TNF-α and IL-17. Above findings indicate that visnagin has substantial potential to prevent cerulein induced AP9 . Withaferin A (WA) isolated from Withania somnifera (Ashwagandha) has recently become an attractive phytochemical under investigation in various preclinical studies for treatment of different cancer types10.

Withaferin A This study was carried out Withaferin A (WFA) against Cerulein-induced acute pancreatitis in mice. Increased levels of MDA, NO, and expression of myeloperoxidase and nitrotyrosine in the parameters estimated add evidence to the role of oxidative stress and inflammation in acute pancreatitis. WFA evidently altered these conditions upon pretreatment. The result revealed that this novel steroidal compound has potent anti-inflammatory property. Natural compounds can therefore be good remedies against many diseases if incorporated in routine diet as dietary supplement. Coreopsis tinctoria (Asteraceae) occurs only in North America and certain provinces of China Flowers of this plant are widely used in folk medicine for diabetes, hypertonia, hyperlipidemia , coronary disease , and as an agent for insomnia, an anti-inflammatory, and a natural antioxidant.

CONCLUSION. Acute pancreatitis is frequently encountered on the emergency surgical take. Once the diagnosis is made, clinical efforts should concurrently concentrate on investigating for the underlying etiology and managing the condition by anticipating its complications, which can be aided by using any of the severity scoring systems described. Management of acute pancreatitis is largely supportive. For diagnosis of acute pancreatitis, serum amylase is commonly used for early diagnosis of acute pancreatitis while lipase is used to confirm acute pancreatitis in a patient with elevated amylase level. Medicinal plants are of great significance to the health of individuals and communities. Due to their great importance, demand of medicinal plants has increased numerous folds. The present review focuses important medicinal plants which is effective against pancreatitis. The present literature gives pathway for further study and processing of Phytoceuticals of various medicinal plants which used as supplement to cure pancreatitis.

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