

SECTION A

GENERAL INTRODUCTION

Nature had always been an inspiration and guidance for human existence from time immemorial. Natural products which were derived from higher plants, animals or microbes were the main remedies to fight and control diseases. Among these medicinal preparations included the dried plants or an extract of the plants. Our country has a wide topography and agroclimatic conditions permitting the growth of an estimated number of 20,000 plant species of which about 2500 are of known medicinal value.

Research on medicinal plants is an important area of biomedical research in India. With the advent of European Scientific methods many of the reputed medicinal plants came under chemical scrutiny, leading to the isolation of the active principles. Beginning with AD 1500 there was a continuous activity in this area and many of the well known medicinal plants were chemically analysed and characterised for their active principles.¹ Soon after their isolation and characterisation these compounds either in pure state or in the form of well characterised extracts became part of pharmacopoeias of several countries.

Atherosclerosis and cancer are the two pathological conditions which are completely incurable even now. The Allopathic medical system which is the more accepted system of medicine possess more side effects when compared with that of other two medical systems—Homeopathy and Ayurveda. Both these systems involve the use of medicinal plants as their raw material for the drug preparation. Ayurveda is still widely practised in India and plants form an important part of Ayurvedic pharmacopoeia. "Charaka Samhitha" one of the earliest treatise of Ayurveda (600 BC) lists a total of 341 plants and plant products for use in health management.¹ All

these interesting aspects about medicinal plants lead us to study their antiatherosclerotic and anticancerous property.

The drug prepared from selected medicinal plants is used to check the properties. This should be done first on a clinical basis using all modern parameters. Once the preparation have been demonstrated by competent research, work should be undertaken to identify active principles, their therapeutic action on animal mode s via prodrugs and immunopotentialion. Researches aimed at discovering new drugs from higher plants lead to the development of drugs like reserpine from *Rauwolfia serpentina*—drug for the treatment of hypertension, insomnia and insanity and vinblastine and vincristine isolated from *Catharanthus roseus*- for the treatment of cancer.¹ Later the reserpine and vinblastine and vincristine were found to be alkaloids from their structure which was an important landmark in alkaloid chemistry¹. So isolation, purification and structural elucidation of the active principle will give much emphasis to the pharmacological importance of medicinal plants.