Chinese herbal medicine for Alzheimer's Disease (AD)

Traditional and scientific evidence

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Introduction

AD - an expanding problem

Internationally, around 24 million people have dementia. By 2040 the projection is 81 million. About 50% have the age related cognitive disorder Alzheimer's Disease (AD) (Ferri et al 2005). In Australia, AD affects about 1% (200,000) of the population. This is projected to increase to 2.8% by 2050 (Access 2005). The direct health costs of AD were estimated at Aust$5.6 billion (Access 2003). These costs are projected to increase as the population ages.

Currently, conventional western medications offer symptom management in about one third of cases but do not prevent or halt the progression of AD. Consequently there is a need for new therapies that can prevent or delay the onset of AD, slow the progression of AD or manage the symptoms associated with AD.

Natural products and new drugs

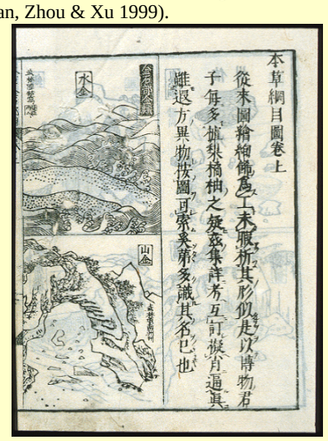
Over the last century natural products have been the principal source of materials for new drug development. In the period 1989-1995, 61% of newly-approved drugs (excluding biologics) were either directly derived from or modelled on natural products (Cragg et al 1997). However, less than 10% of the World's biodiversity has been tested for biological activity (Harvey 2000). So there remains considerable scope for natural products to produce new drugs into the future.

Chinese Herbal Medicine (CHM)

In China, traditional medicine employs over 12,000 individual species, singly or in combined into formulae, for the management of a wide range of disorders (Yan, Zhou & Xu 1999).

Longevity has been actively pursued in China for at least 2000 years via the use of medicines and food stuffs (Needham & Lu 2000).

Although AD is a modern disease entity, and has no direct analogue in the classical Chinese literature, disorders of memory and cognitive deficit are referred to throughout the classical and modern CHM literature. It is likely that some of these instances referred to disorders that would receive the modern diagnosis of AD.



Methods

The proposed study examines and evaluates the use of Chinese herbs and herbal formulae for AD and related disorders in both the modern and classical Chinese medicine literature. It includes:

- Systematic reviews of the modern research and traditional literature on the treatment of disorders, signs and symptoms that are related to the modern disease entity of AD
- Evaluation of the quality and significance of the modern research evidence
- Development of a methodology for searching and evaluating treatment approaches found in the classical CHM literature
- Searches of the classical literature and evaluations of quality of evidence located
- Selection of candidate herbs and formulae for further research

Expected deliverables

- Reviews of the contemporary approaches to the management of AD using CHM and the nature and quality of the research evidence
- A strategy for identifying sources in the traditional literature and for searching these for specific therapeutic information that can be applied to not only AD but also other diseases
- A series of validated instruments for evaluating the quality of evidence derived from traditional sources that can be applied to not only AD but other diseases.
- A set of herbs and formulae that constitutes candidates for further research in the management and treatment of AD and related disorders.

Classical Chinese works on materia medica and formulae record numerous substances and combinations of substances purported to maintain health and prolong life (Akahori 1989).

Fig 1 Entry from the Ming Dynasty materia medica *Ben Cao Gang Mu* by Li Shi-jen

Preliminary Results

The modern research literature

Modern clinical research suggests that some traditional medicines may be of value in the management of dementia. Of the products derived from Chinese materia medica, the plant Gingko biloba has received the most research. A number of studies suggest Gingko can enhance memory (Diamond et al 2000; Kanowski & Hoerr 2003). Other traditional medicines and formulae have also received research attention (Bent et al 2003; Jirong et al 2006).

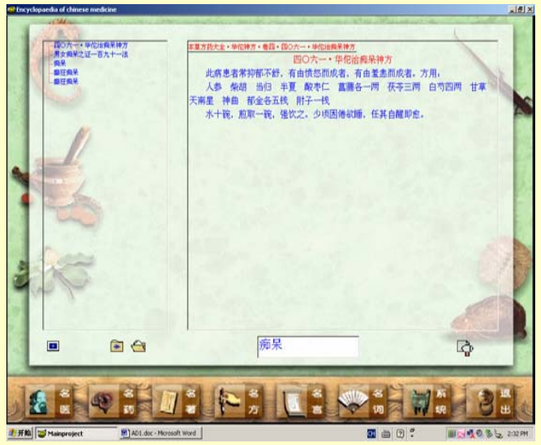


Fig 2 Entry in the classical book *Hua Tuo Shen Fang*

Formula name: Hua Tuo Zhi Chi Dai Shen Fang

Composition: Ren shen, Chai hu, Dang gui, Ban xia, Suan zao ren, Chang pu each 1 liang; Fu ling 3 liang; Bai shao 4 liang; Gan cao, Tian nan xing, Shen qu, Yu jin each 5 qian; Fu zi 1 qian.

Preparation: Add 10 bowls of water, boil till one remains.

The classical literature

Although AD is a modern disease entity, and has no direct analogue in the classical Chinese literature, disorders of memory and cognitive deficit are referred to throughout the classical and modern CHM literature. It is likely that some of these instances referred to disorders that would receive the modern diagnosis of AD. Preliminary searches of classical books have identified treatments for cognitive deficit disorders that may be analogous to AD (see Fig 2).

Comments

In the modern research literature a number of clinical and experimental studies examine the potential of Chinese herbs and formulae for AD and related conditions. The classical literature also contains herbal treatments for disorders that have symptoms and signs similar to those of AD. By combining and systematically evaluating the data derived from the modern and classical literature, it is expected that the herbs and formulae with the greatest potential for further research can be identified.

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For further information

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