Herbal medicines

Safety of herbal medicines in children
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A commentary on the paper by Ramsay et al

Herbal medicines are used extensively by children in the West. They are an important part of complementary and alternative medicines (CAM). A study of over 500 children in the southwest of England reported that almost one in four children had received CAM therapy. One study in North America reported that over 10% of children had used at least one form of CAM therapy.

Efficacy

It is important that health professionals adopt a non-judgemental approach with regard to parents who use CAM for their children. Many herbal medicines may be effective as we know that many plant derived chemicals are the basis of conventional drug therapies. Parents will often use a herbal medicine for their children on the basis that it is more ‘natural’ and safer. One third of parents will use CAM because they feel that they are safer than conventional medicines!

Toxicity

There have been numerous studies in relation to the incidence of adverse drug reactions to children in hospitals. The toxicity of certain herbal medications is well recognised on the basis of case reports. The incidence of toxicity in relation to herbal drug therapy, however, is unknown. A recent systematic review of the toxicity of CAM concluded that there were insufficient data to determine the incidence of toxicity of herbal medicines. Table 1 gives examples and the mechanisms of toxicity. The toxicity of herbal medicines may be due to intrinsically toxic constituents of the herbal ingredients. Examples of this include visco toxins, which are constituents of mistletoe and are both cytotoxic and cardiotoxic. Other examples include cyanogenetic glycosides which are present in the kernels of a number of fruits. Gastric hydrolysis of these compounds results in the release of hydrogen cyanide. Other important mechanisms associated with the toxicity of herbal medicines include allergic reactions and contamination by heavy metals.

Drug Interactions

It is important to appreciate that herbal medicines may interact with prescribed medicines. Concurrent use of herbal or homeopathic remedies alongside prescribed or over the counter medicines is common. Drug interactions are a significant problem in association with the use of St John’s wort. St John’s wort may induce drug metabolising enzymes within the liver as well as possibly affecting P-glycoprotein, which is a transport protein present throughout the body.

Formulation

The paper by Ramsay and colleagues highlights the important issues in relation to the formulation of herbal medicinal products. The Medicines Control Agency has expressed concerns regarding the variable quality of unregulated herbal products. The paper by Ramsay et al, however, is highly suggestive that potent corticosteroids have been deliberately introduced to herbal creams in order to increase their efficacy. Unfortunately inappropriate formulation development is not restricted to complementary therapies. In 1937, 76 Americans, many children, died following the preparation of a sulphamidine solution in 72% diethylene glycol. These deaths resulted in legislative changes in the USA to ensure that the quality of medicines was formally assessed. In many developing countries medicines are available in street markets and the source of the medicines is unknown. Forty seven children died in Nigeria following the deliberate use of diethylene glycol as a solvent for paracetamol instead of propylene glycol. There have been similar tragedies affecting children in Bangladesh and Haiti.

It is important that the quality of herbal medicines is significantly improved. This can only be achieved by parents, health professionals, and regulatory authorities working in conjunction with the suppliers of herbal therapies to ensure that they are of sufficient standard. Prosecution of suppliers who deliberately adulterate herbal creams is urgently required. Parents who wish to use herbal medicines should try to obtain them from reliable sources—that is, one of the main herbal practitioner associations.

REFERENCES

Leptospirosis

Detection of leptospirosis in India

J M Vinetz

A commentary on the paper by Karande et al

Leptospirosis is a zoonotic disease of global significance. In recent years, clinicians and epidemiologists have given increasing attention to this disease, with particular focus on two features: its epidemic potential; and severe manifestations, particularly pulmonary hemorrhage. However, in leptospirosis endemic regions, one quarter of patients (or more) presenting with simple fever have serological results suggesting the diagnosis of acute leptospirosis. Severe leptospirosis seems to be the tip of the iceberg of leptospiral infection: most people infected by Leptospira seem to have either simple, undifferentiated fever (fever without focus) or subclinical illness.

Fever is a cardinal manifestation of leptospirosis. During a six week period following the Mumbai flood of July 2000, public health authorities thought that the outbreak was a "viral" or "dengue-like" illness. When diagnostic testing showed no evidence of dengue virus transmission, other diagnostic possibilities were considered; among them, for some reason leptospirosis cases received intravenous penicillin and recovered without sequelae.

"An outbreak of febrile illness occurred in the context of seasonal flooding in Mumbai".

So it was the diagnostic importance of undifferentiated fever that motivated Karande et al to study leptospirosis in Mumbai, as reported in this issue of the Archives. The authors took advantage of outbreaks of undifferentiated fever in Mumbai as is typical with outbreaks of undifferentiated fever. Public health authorities thought that the outbreak was a "viral" or "dengue-like" illness. When diagnostic testing showed no evidence of dengue virus transmission, other diagnostic possibilities were considered; among them, for some reason not described by the authors, leptospirosis.

REFERENCES