



HERBAL MEDICINE—AN OVERVIEW OF ADVERSE REACTIONS AND INTERACTION WITH FOOD AND DRUGS

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ABSTRACT

Herbal medicine or Phytomedicine are used from the ancient time in various traditional system of medicine throughout the world. Herbal medicine consist active ingredients in crude form or as an isolated chemical constituent by various processes. Herbal medicine widely perceived by the public too, but adverse effect include important inhibition with conventional medicine occurs. Adverse drug reaction can occur due to adulteration, chemicals used in isolation in strictly toxic content. So they cause side effects, drug interaction and interaction with patient's condition i.e. Young, old and pregnant women. For these reason, there is an increasing awareness at several levels of need to know the drug -food, drug-drug interaction at the therapy. Intractable side effects of herbal medicine will be discussed to aware of the use of herbal medicine.

Keywords: Herbal Medicine, Adverse Drug Reaction, Drug-Drug Interaction, Drug-Food Interaction.

INTRODUCTION

Herbal medicine prepared from the variety of plant parts such as root, barks, stems, leaves, flowers, fruits and so on or processed plants. But an isolated chemical constituent with organs from plant material is not an herbal medicine (Handa and Kapoor, 2005; Trease and Evans, 2002). Some examples of herbal drugs are given in Table -1.

CHARACTERIZATION OF HERBAL DRUG

Herbal medicine has long history of traditional uses. But lacks formal investigation of their efficacy, toxicity and safety profile still it is not popular and is not

globally accepted. Herbal medicine is chemically rich complex mixture containing several hundreds of constituents. The profile of constituents is not uniform throughout a plant, and for many plants only a specific plant parts, such as roots or leaves is used medicinally (Varro E. Tyler, 1993). The methods of processing crude herbal material for example the type of extraction can also influenced the precise chemical composition of herbal preparation or product (Melanie Johns Cupp, 1997). The chemical complexity of the herbal medicine taken by the patients. The chemical complexity of herbal medicine creates difficulties in determining their chemical pharmacokinetic, pharmacodynamics and toxicology and equally safety of a particular herbal medicine, establishing which constituents, even which herbal ingredients with combination herbal medicine are implicated and problematic (Williamson, 2003).

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ADVERSE DRUG REACTION AND REPORTING FORM

Adverse drug reaction is a significant cause for morbidity and mortality. It may be defined by the WHO as any response which is undesirable or unintended and occurs in doses ordinary employed for the prophylaxis, diagnosis or treatment. No drugs produce a single effect which can be utilized therapeutically. Adverse drug reaction should be confined to those reaction which are harmful or unpleasant and necessities withdrawal of the drug or reduction of its dose, and or forecast hazards from the future administration (Foster, 1993).

The minimum information required for a report of a suspected ADR is the same for both conventional and herbal medicine. Alternatively, modification to the

existing reporting card could be made so that important details on herbal medicine can be requested. A template modified reporting form with specific data fields relating to herbal medicine has been produced (Anonymous, 1994). In this article some important drugs and their ADR given as in table -2.

HERBAL DRUG –DRUG INTERACTION

Drug-drug interaction is a change in either the duration or the magnitude of the pharmacological response or both of one drug by another one. The change may be harmful or it may result in enhancing or decreasing the effect of a drug (Washington DC, 1962). Thus for some example is given in table –3 (Kusum Dobi and Vijayalakshmi, 2003)

Table 1: Some commonly used plant drugs and their applications

S. NO	COMMON NAME	SOURCE	ACTIVE INGREDIENTS	INDICATION
1	Ashwagandha	<i>Withania somnifera</i> .	Withaferine, Anaferine, Somnitol, Cerotic acid	Sedative, Hypotensive, Immune-modulator.
2	Chirata	<i>Swertia chirata</i> .	Chiratin, Amarogentin.	Bitter-tonic, Anorexia, Stomachic.
3	Garlic	<i>Allium sativum</i> .	Allicin, Allin , Volatile oil, Protein, Amino acids.	Anti- bacterial, Anti-fungal, Expectorant, Stimulants.
4	Gingko	<i>Gingko biloba</i> .	Flavonoids, Bilobetin, Ginkgolic acid.	Dementia, Memory improvement, Anti oxidant.
5	Methi	<i>Trigonella foenum</i> .	Saponin glycoside, Trigonelline, Diosgenine.	Gastric ulcer. Anti- inflammatory, Demulcents.
6	Neem	<i>Azadirachta indica</i> .	Nimbidin, Nimbin, Nimbidol	Anti-viral, Anti bacterial, Blood purifier
7	Peppermint oil	<i>Mentha piperita</i> .	Menthol, Cineole, Menthofuran, Menthone	Stimulant, Anti- tussive, Spasmolytic
8	Rasna	<i>Alpinia galangal</i> .	Alipinol, Galanglol, Methyl cinnamate	Rheumatism, Carminative, Stimulants.
9	Shankpushpi	<i>Evolvulus alsinoides</i>	Alkaloids- Betaine, Shankpushpine	Asthma, Chronic bronchitis, Nerve tonic
10	Vasaka	<i>Adhatoda vasica</i>	Vasicine, Vasicinone, Vasakinine.	Expectorant, Bronchodialotor, Abortifient.

Table 2: Some important drugs and their ADR

S. NO	COMMON NAME	SOURCE	INDICATION	ADVERSE DRUG REACTION
1	Aloe	<i>Aloe barbadensis</i>	Laxative	Loss of electrolyte with chronic use.
2	Echinaceae	<i>Echinacea spp</i>	Immune system stimulant, Antifungal, Anti-inflammatory.	Anaphylaxis.
3	Ephedra	<i>Ephedra spp.</i>	Stimulant, Nasal decongestant, Bronchodilator, Appetizer	Death in over dose, Cardiovascular complication, High blood pressure.
4	Evening primorose oil	<i>Oenothera biennis</i>	Anti inflammatory, Sedative, Anticoagulant, Astringent.	Gastro intestinal disturbances
5	Fever few	<i>Crysanthemum parthenium</i>	Treatment of migraine headaches, Anti inflammatory.	Increase heart rate, allergic reaction, Mouth ulcer, Head ache
6	Ginkgo	<i>Ginkgo biloba</i>	Dementia, Memory improvement, Antioxidants Inhibit platelets aggregation.	GI upset, Headache, Nausea, Vomiting
7	Ginseng	<i>Panax ginseng</i>	CNS Stimulant and suppression, Hypertensive, Anti-oxidant, Improve sexual function.	Diarrhoea, Euphoria, Headache, Vaginal bleeding, Hypertension, Insomnia.
8	Saw palmetto	<i>Serenoa repens</i>	Treat beginning prostates hyperplasia. Enhance sexual vigor, Enhance breast size.	GIT disturbance, Headache Large amount cause diarrhoea.
9	Senna	<i>Cassia spp</i>	Laxative	Diarrhoea, Nausea, Avoid chronic use
10	Witch hazel	<i>Hamamelis virginiana</i>	Astringent	Increase heart rate, Allergic reaction, Mouth ulcer, Headache.

Table 3: Some important drugs and their Drug-Drug interaction

S.NO	DRUG	SOURCE	POPULAR USE	DRUG INTERACTION
1	Echinacea	<i>Echinacea spp</i>	Prevention and treatment of common cold, Wound healing.	Avoid use with hepatotoxic drug and immunosuppressant.
2	Feverfew	<i>Crysanthemum parthenium</i>	Migraine prophylaxis	Potential cross reactivity with chamomile, ragweed, and yellow allegiances, Avoids use with the platelet inhibitor and anti coagulants.

Table 3: Some important drugs and their Drug-Drug interaction

3	Garlic	<i>Allium sativum</i>	Lipid lowering, Anti thrombosis, Fibrinolytic, Anti hypertensive, Anti-atherosclerotic.	Many potentiated hypoglycemic and anti platelet therapy, lowers plasma level of sequinavir. (Fortovase, Inverse)
4	Ginkgo	<i>Gingko biloba</i>	Dementia, Intermittent Claudication	Avoid use with anti coagulants, Platelets inhibitors and Anticonvulsant.
5	Ginger	<i>Zingiber officinale</i>	Anti- emetics	Avoids use with the platelet inhibitor, anti coagulants.
6	Ginseng	<i>Panax ginseng</i>	Tonic, Performance enhancer, Adaptogen, mood enhancer.	Decreases the INR in patients taking warfarin, Elevate digoxin levels.
7	Ma –Huang	<i>Ephedra spp</i>	Asthma, Rhinitis, Common cold weight.	Cardiac glycoside, Halothane.
8	St .John’s Wort	<i>Hypericum perforatum</i>	Anxiety Depression Insomnia	Warfarin, Digoxin, Oral contraceptive, Theophylline, Amitriptyline, Avoid use of other photosensitizing agent.
9	Valerian	<i>Valeriana wallichii</i>	Sedative, Hypnotic, Anxiolytic.	May potentiate effect of other sedative and hypnotics.

CONCLUSION

Most of the people believes that herbal medicine are safe, their no side effect. Many herbs are dangers and interact with food and other medication. Therefore, the public need to be aware that ‘*natural*’ does not mean safe .Many advertising labels of herbal medicine show “*no side effect*” and 100% safe, but they produce untested claim. Patient should be advice to stop the self medication or herbal medicines immediately if adverse effect occurs.

The medicine should be taking by proper consultation with doctors, and pharmacist to improve health benefit.

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