



FLUIDEXTRACTUM CASCARA SAGRADA AROMATICUM, U.S.P., XI

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Abstract

The present paper deals with formula for Aromatic Fluidextract of Cascara Sagrada.

Key Words: Cascara Sagrada., Aromatic Fluidextract

Introduction

The United States Pharmacopoeia published in its XI edition of 1936 the following formula for Aromatic Fluidextract of Cascara Sagrada:¹

Ingradient Name	Quantity
Cascara Sagrada, in coarse powder	1000 g
Magnesium Oxide	120 g
Pure Extract of Glycyrrhiza	40 g
Saccharin	2 g
Oil of Anise	0.65 cc
Oil of Coriander	0.15 cc
Methyl Salicylate	0.10 cc
Alcohol	200 cc
Distilled Water, a sufficient quantity, To make	1000 cc

This fluidextract is also called the Aromatic Fluidextract of Rhamnus Purshiana. By definition, the U.S.P. recognizes fluidextracts as "liquid preparations of vegetable drugs containing alcohol as a solvent or as a preservative, or both, and made so that each 1 cc contains the therapeutic constituents of 1 g of the standard drug

which it represents." The alcohol in this formulation acts as a solvent and a preservative. Whenever alcohol is called for in formulations, always use Alcohol, U.S.P. (95% v/v). This fluidextract contains slightly less than 20% v/v of ethanol in it (the official formula contains between 17 to 19%, by volume, of ethanol).

Material and Methods

According to U.S.P., XI official fluidextracts are prepared by percolation. Subsequently, the solvent system may be reduced by distillation at a temperature not to exceed 60°C, unless otherwise specified in the monograph. This fluidextract is prepared first by thoroughly mixing the coarse cascara sagrada powder with magnesium oxide and then macerating (or soaking) the mixture in 2 liters of boiling distilled water for two days, with occasional stirring of the mixture. The moist powder mixture is then placed in a metallic percolator, using boiling distilled water as the menstruum (the dissolving solvent). Following percolation, the resulting liquid is reduced to 750 cc using heat (100°C). The pure extract of glycyrrhiza is added to the warm solution and dissolved, and the liquid is allowed to cool at room temperature. All the other ingredients are dissolved in alcohol and the resulting solution is added to the cool concentrated percolate. Enough distilled water is then added to make the preparation measure 1 liter.

Discussion

The coarse powder of cascara sagrada is obtained from the dried bark of Rhamnus purshiana. The active constituents in the bark are 1,8-dihydroxy-anthracene derivatives.² Other active compounds, the anthrones, are formed from the degradation reaction of the β -glycosides in the bark by the bacteria inhabiting the colon. All of these active compounds possess a laxative effect.² The U.S. Food and Drug Administration has recognized cascara sagrada as a safe laxative.³ This herb has a bitter taste; the presence of glycyrrhiza extract, oil of anise, oil of coriander, and saccharine, however makes this formulation sweet in taste. The average dose of this fluidextract is 2-5 ml per day, given orally.^{1,2}

Pure Extract of Glycyrrhiza, U.S.P., XI is also prepared by percolating licorice roots and rhizomes with boiling distilled water, followed by reduction and filtration of the percolate, and then complete evaporation of water by heat using a water bath. This pilular extract has a sweet taste which helps mask the bitter taste of cascara sagrada. Although the use of licorice in this preparation is not intended for therapeutic effect, licorice

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possesses a variety of effects of its own. Such effects include an immunostimulating activity and an anti-inflammatory action.⁴

Although not enough of the anise oil is present in this formulation to exert any significant therapeutic effect, anise oil is commonly used in the management of intestinal gas (0.1 ml of oil, tid).³ Similarly, oil of coriander is used in this fluidextract as an aromatic. Coriander is also known to have a carminative and a stimulant effect.³

Magnesium oxide in water converts to magnesium hydroxide, which has a mild cathartic effect.⁵ The use of light variety of this chemical over the heavy form is preferable for ease of suspending and mixing with water.⁵

Cautions

The laxative effect of cascara sagrada involves the loss of electrolytes from the body; potassium depletion is a common finding after a prolonged use. In addition, the presence of licorice in the formulation may also worsen this depletion.^{3,4} Patients who are on thiazide diuretics or corticosteroids are specifically at risk of developing severe hypokalemia if they take cascara sagrada simultaneously.³ The effect of cardiac glycosides may become more pronounced with this potassium loss.³

Conclusion

Aromatic Fluidextract Cascara Sagrada, U.S.P., XI is a formulation that is used for its laxative effect. It is prepared by percolation using boiling water as the menstruum. Although the taste of cascara sagrada is bitter, the presence of licorice extract, anise and coriander oils, and saccharine render the preparation sweet in taste. Prolong use of cascara can produce potassium depletion which can lead to serious interactions with other drugs.

References

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