Phytochemical and Biological Studies of genus *Olibanum* Family Burseraceae, which was introduced into Egypt for folk medicine.

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ABBREVIATIONS

ABA	Acetyl Boswellic Acid
AKBA	Acetyl Keto Boswellic Acid
ALP	Alkaline phosphatase enzyme
ALT	Alanine transminase enzyme
AST	Aspartate transminase enzyme
BA	Boswellic Acid
BSE	*Boswellia serrata* Extract
b.w t.	body weight.
CC	Column Chromatography
CYP	Cytochrome P450
^{13}C-NMR	^{13}C Nuclear Magnetic Resonance.
d	doublet
DMSO	Dimethylsulfoxide
ED	Extraction followed by distillation
FA	Fatty acid
FAB MS	Fast Atom Bombardment Mass Spectrometry
FAME	Fatty Acid Methyl Ester.
FID	Flame Ionization Detector.
FAME	Fatty Acid Methyl Ester
G_0	Glucose level at zero time.
GC	Gas Chromatography
Gc	Glutathione level in control rats.
GC/MS	Gas Chromatography coupled by Mass Spectrum
GLC	Gas Liquid Chromatography
Gt	Glutathione level in treated rats.
G_t	Glucose level at certain time after administration.
HC	Hydrocarbon
HD	Hydro distillation
^{1}H-NMR	^{1} H Nuclear Magnetic Resonance.

HPLC	High Performance Liquid Chromatography
HPTLC	High Performance Thin Liquid Chromatography
IA	Incensole Acetate.
IN	Incensole.
***J*-value**	Coupling constant
KBA	Keto Boswellic Acid
KI	Kovat's Index
L_0	Liver enzymes at zero time.
LD_{50}	Median Lethal Dose
L_t	Liver enzymes at certain time after adminstration.
m.p.	Melting Point
Mc	Mean odeama in control rats.
Mol. wt.	Molecular weight.
Mt	Mean odeama in treated rats.
NF	Nuclear Factor
R_f	Retardation factor
R_t	Retention time
SFE	Super Critical Fluid Extraction
SPME	Solid Phase Micro Extraction
Spp.	Species
T_0	The rectal temperature at zero time
TLC	Thin Layer Chromatography
T_t	The rectal temperature at interval time of administration.
USM	Unsaponifiable matter
UV	Ultra Violet
+Ve.	Positive.
- Ve.	Negative.
V_0	The minimal voltage at zero time.
VLC	Vacuum Liquid Chromatography
Vt	The minimal voltage at certain time interval.

Introduction

Introduction

Frankincense is a generic name for the oleogumresin and tree of approximately 25 different known *Boswellia* species. Frankincense is also commonly known as "Olibanum", or "Oil of Lebanon from the Arabic word for the resin, "Laben" or "Luban" which is a word that also means "white" or "cream."

Burseraceae comprises 18 genera and about 540 species of flowering plants, also known as the incense tree family. The family includes trees and shrubs, native to tropical regions of Africa, Asia, and the Americans. Some members of the family produce fragrant resins used as incense or perfume, most notably frankincense and myrrh.

Boswellia species are small trees that grow wildly and prefer moist climates. Frankincense is used as anti-inflammatory in many cultures and fast becoming popular in the West for such treatments. Frankincense is traditionally used as antiseptic, anti-inflammatory and as expectorant to those suffering from asthma. It has been used extensively as an antibacterial and antifungal treatment for mature skin and acne and to heal wounds and scars. Certain phytochemical and biological studies were carried out on certain species of *Boswellia* such as anti-inflammatory effect, anticancer, immunomodulatory, hepatoprotective, antidiabetic and antibacterial.

On the other hand, certain phytochemical and biologicalical studies were carried out on *Boswellia carterii* Birdwood (Somalia), (Bursereaceaes) [Duwiejua, M.; *et al* (1993), Jing, Y.; *et al* (1992, 1993, 1999), Qi, Z.; *et al* (1999), Hussein, G.; *et al* (2000), Liu, X.; Qi, Z. H. (2000), Badria, F.A.; *et al* (2003), Chevrier, M. R.; *et al* (2005), Fan, A. Y.; *et al* (2005), Hamm, S.; *et al* (2005), Akihisa, T.; *et al*

(2006), Banno, N.; *et al* (2006), Frank, A.; Unger, M. (2006), Buchele, B.; *et al* (2006), Camarda, L.; *et al* (2007), Lu, M.; *et al* (2008), Yuan, H. Q.; *et al* (2008), Frank, M. B.; *et al* (2009)], It was deemed of interest to prove the phytochemical and biological studies of this unorganized drug.

Aim of work:

Although there are certain reported studies on *Boswellia* species, little was carried out on *Boswellia carterii* Birdwood (Somalia), (Bursereaceaes) relative to other species. So, it is deemed of interest to investigate the mechanism of their medicinal uses as well as the phytoconstituents of the unorganized product including oleoresin, essential oil, resin & gum.

The present work includes:

1. Literature survey.
2. Collection & authentication of the drug under investigation.
3. Phytochemical screening of the Olibanum.
4. Investigation of the lipoidal matter.
5. Study of the chemical composition of volatile oil by GC/MS analysis.
6. HPLC analysis of the gum.
7. Isolation & identification of the isolated compounds from the resin by spectroscopic analysis.
8. Biological screening of the different extracts & fractions of the unorganized product to ascertain their activities.