



Faculty of Women for Arts,
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Evaluation of Pumpkin (*Cucurbita moschata*) Pulp and Seeds Extracts on Gastrointestinal Ulcers Induced by Indomethacin in Rats

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَسَالَتْ أَوْدِيَةٌ
بِقَدَرِهَا فَاحْتَمَلَ السَّيْلُ زَبَدًا رَابِيًا
وَمَا يُوقِدُونَ عَلَيْهِ فِي النَّارِ ابْتِغَاءَ
حُلِيَةٍ أَوْ مَتَاعٍ زَبَدٌ مِثْلَهُ كَذَلِكَ
يَضْرِبُ اللَّهُ الْحَقَّ وَالْبَاطِلَ فَأَمَّا
الزَّبَدُ فَيَذْهَبُ جُفَاءً وَأَمَّا مَا يَنْفَعُ
النَّاسَ فَيَمْكُثُ فِي الْأَرْضِ كَذَلِكَ
يَضْرِبُ اللَّهُ الْأَمْثَالَ

صدق الله العظيم

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List of Abbreviations

Abbr.	Full term
AA:	Arachidonic acid
AAP:	4-aminophenazone
CAT:	Catalase enzyme
COX:	Cyclooxygenase
CVDs:	Cardiovascular diseases
DHBS:	3, 5 Dichloro-2-hydroxybenzene sulfonic acid
DSM:	Defatted seeds meal
DU:	Duodenal ulcer
FER:	Feed efficiency ratio
GIT:	Gastrointestinal tract
GS:	Glutathione synthetase
GSH:	Reduced glutathione
GU:	Gastric ulcer
<i>H .pylori</i> :	<i>Helicobacter pylori</i>
HDL-c:	High density lipoprotein - cholesterol
HRP:	Horseradish peroxidase
LDL-c:	Low density lipoprotein -cholesterol
MALT:	Mucosa- associated lymphoid tissue
MDA:	Malondialdehyde
MPO:	Myeloperoxidase
NCG:	Normal control group
NEDA:	N - (1-naphthyl) – ethylenediamine
NH ₂ Cl:	Monochloramine
OCl ⁻ :	Hypochlorite ion

List of Abbreviations

PG:	Pathogenic group
PGE ₂ :	Prostaglandin –E ₂
PPG	Pretreated pulp group
PPSG:	Pretreated pulp seeds group
PSG:	Pretreated seeds group
PTPG:	Post treated pulp group
PTPSG:	Post treated pulp seeds group
PTSG:	Post treated seeds group
PUD:	Peptic ulcer disease
SOD:	Superoxide dismutase
TA:	Total acidity
TBA:	Thiobarbituric acid
TNF:	Tumor necrosis factor
XO:	Xanthine oxidase

ABSTRACT

Peptic ulcer is a deep lesion penetrating through the entire thickness of gastrointestinal tract (GIT) and muscular mucosa that is usually located in the stomach or proximal duodenum. Pumpkin contain active components such as flavonoids that shows antiulcerogenic activity and improve the healing of gastric mucosal lesions .Hence, these constituents may be responsible for reduction of gastric ulcer indices and antiulcer effect of pumpkin. The present work was undertaken to investigate the effect of pumpkin (*Cucurbita moschata*) aqueous extract and or ethanolic extract of seeds on indomethacin – induced ulcer in rats.

Ninety-six adult male albino rats Sprague-Dawely strain were divided into eight groups: group (1) normal control and group (2) pathogenic group that received indomethacin by oral administration (5 mg/kg b.wt /day) for 2 weeks. The other six groups were administrated indomethacin (5mg/kg b.wt/day) for 2 weeks along with either oral pre or post doses of pumpkin pulp and / or seeds oil extracts (400mg/kg.b .wt /day) twice weekly for another 2 weeks.

The results of this study showed that indomethacin administration to rats caused significant reduction in feed intake, weight change, FER and relative weights of small intestine and a significant increase in the gastric volume, free and total acidity. Indomethacin induced significant increase in the oxidative biomarkers (XO, MPO, MDA and NO) and decrease in the antioxidant enzymes (CAT and GSH), all of these results were confirmed by histopathological examination which indicated remarkable inflammation, hemorrhage , necrosis of small intestine and colon tissues of pathogenic rats. Oral administration of pumpkin pulp and /or seeds oil extracts in pre or post treatment doses caused ameliorative effect on biological, biochemical and histological changes.