HOMEOPATHIC ARNICA MONTANA FOR POST-OPERATIVE ANALGESIA

THESIS

Submitted for fulfillment of Master Degree

in Anesthesiology

By

Mahmoud Ali Bassiony Mohammed

(M.B. B.Ch)

Supervised by

PROF.DR.Tarek Mahmoud Fahmy Abdulbarr

Professor of Anesthesiology

Cairo University

Dr.Hemmat Al-Sayed Mostafa Allam

Assistant professor ofcomplementary medicine

National Research Center

Dr. Osama Hamed Abushanab

Lecturer of Anesthesiology

Cairo University

Faculty of Medicine

Cairo University

2010

ACKNOWLEDGEMENT

First and foremost, I feel always indebted to God, the most kind and most merciful. Words will never be able to express my deepest gratitude to all those who helped me during preparation of this study.

I am most grateful to Dr. Prof. Tarek Mahmoud Fahmy Abdulbarr, Professor of Anesthesiology Department, Cairo University, who kindly supervised and motivated the performance of this work with keen interest and indispensable advice.

I am greatly honored to express my sincere appreciation to Dr. Prof. Hemat El-Sayed Mostafa Allam, Assistant Professor of Complementary Medicine Department, National Research Center, for her valuable scientific supervision and guidance.

I owe a particular debt of gratitude to Dr. Osama Hamed Abu-Shanab, Lecturer of Anesthesiology Department, Cairo University, for his valuable help, direction and his encouragement in this study.

I also would like to thank Dr. Prof. Heba El-Shafei, Professor of Complementary Medicine Department, National Research Center, for her encouragement and support.

Finally I would like to thank all members of my family for providing support, care and love.

Abstract

Background:

Arnica Montana is used for treating wounds and injuries on account of its supposed abilities to control pain, bruising, reduce swelling and promote recovery. It is one of the widely used homeopathic preparations and is popular with patients undergoing surgery.

Aim of work:

The efficacy of homeopathy is still under debate. The objective of this study was to evaluate the efficacy of homeopathic arnica in reducing the pain following abdominal hysterectomy.

Methodology:

Randomized placebo controlled trial at Al-Kasr Al-Ainy. 60 patients under age of 60 undergoing abdominal hysterectomy were randomized into intervention and control groups receiving either Arnica 200C or identical placebo, two tablets of Arnica 200C or placebo were taken sublingually one hour preoperatively then two tablets every two hours on the first postoperative day and then two tablets twice daily were taken from the second day to the seventh day postoperatively.

Results:

60 patients completed the study. The Arnica group had more drop in pain score throughout the study but was statistically insignificant (p value = 0.137). The two groups did not differ significantly on blood pressure or heart rate.

Conclusion:

We conclude that Arnica Montana has no advantage over placebo in reducing postoperative pain in patients undergoing abdominal hysterectomy.

Key words:

Homeopathy; arnica montana; postoperative pain; visual analogue score (VAS).

Contents

List of Figures

List of Tables

Abbreviations

1.	AERD	Aspirin Exacerbated respiratory disease
2.	AKJ	Artificial Knee Joint implantation
3.	ART	Arthroscopy
4.	ASA	American Society of Anesthesia
5.	CBC	Complete Blood Count
6.	CLR	Cruciate Ligament Reconstruction
7.	CNS	Central Nervous System
8.	COX	Cyclo Oxygenase Enzyme
9.	CSF	Cerebro Spinal Fluid
10.	CYP	Cytochrome isoenzyme P450
11.	DBP	Diastolic Blood Pressure
12.	ECG	Electro Cardio Gram
13.	MAM	Mono Acetyl Morphine
14.	M3G	Morphine-3-Glucuronide
15.	M6G	Morphine-6-Glucuronide
16.	NMDA	N-Methyl D-Aspartate
17.	NRM	Nucleus Raphe Magnus
18.	NSAIDs	Non Steroidal Anti-inflammatory Drugs
19.	PAG	Peri-Aqueductal Grey matter
20.	PCA	Patient Controlled Analgesia
21.	PGH	Prostaglandin endoperoxide
22.	Q	Quintamillesimal
23.	SBP	Systolic Blood Pressure
24.	SD	Standard Deviation
25.	sP	Substance P
26.	SPSS	Statistical Package for the Social Science

27. TCM	Traditional Chinese Medicine
28. TENS	Transcutaneous Electrical Nerve Stimulation
29. VAS	Visual Analogue Scale
30. VIP	Vasoactive Intestinal Polypeptide
31. VMM	Ventro-Median Medulla
32. VNRS	Verbal Numerical Rating Scales
33. WDR cell	Wide Dynamic Range cell
34. WHO	World Health Organisation

Introduction

Homeopathy is a form of alternative medicine first expounded by Samuel Hahnemann in 1796 that treats a disease with heavily diluted preparations created from substances that would ordinarily cause effects similar to the disease's symptoms. These substances are serially diluted, with shaking ("succussing") between each step, under the belief that this increases the effect of the treatment. This dilution is usually quite extensive, and often continues until no molecules of the original substance are likely to remain(96,97).

Arnica Montana is used for treating wounds and injuries on account of its supposed abilities to control pain, bruising, reduce swelling and promote recovery(171,172). It is one of the widely used homeopathic preparations and is popular with patients undergoing surgery (173).

Most physicians assume that there have not been good clinical studies to test the efficacy of homeopathic medicines. This is simply not true. A review of 89 worthy clinical studies was published in The Lancet, and this review found that, on average, those patients given a homeopathic medicine were 2.45 times more likely to experience a positive result than those given a placebo (92). This review of research evaluated various experiments that tested the efficacy of homeopathic remedies in the treatment of hay fever, asthma, migraine headaches, ear infections, upper respiratory infections, rheumatoid arthritis, diarrhea indigestion, influenza, childbirth, postsurgical complications, varicose veins, sprains and strains, among many others. In 1991, the British Medical Journal published an extensive review article on the efficacy of homeopathy (93). The authors pulled from reputable medical journals,

scientifically designed clinical studies on homeopathy. In that review, 107 trials were identified and evaluated, rendering a summary conclusion that 77% of the trials showed that homeopathy worked. The greatest body of clinical research testing homeopathic medicine has concerned conditions in the field of allergy, the vast majority of which has shown highly significant results (94). In their efforts to answer if research in homeopathy is reproducible, a team of physicians and scientist determined that the answer to this question is in the affirmative (95).

Aim Of The Work

The efficacy of homeopathy is still under debate. The objective of this study was to evaluate the efficacy of homeopathic arnica in reducing the pain following abdominal hysterectomy.

Pain Physiology

The "standard" definition of pain is that of the International Association for the Study of Pain: - "An unpleasant sensory or emotional experience associated with actual or potential tissue damage, or described in terms of such damage". Pain is always subjective. Each individual learns the application of the word through experiences related to injury in early life. It is unquestionably a sensation in a part of the body, but it is also unpleasant, and therefore also an emotional experience. Many people report pain in the absence of tissue damage or any likely pathophysiological cause; usually this happens for psychological reasons. There is no way to distinguish their experience from that due to tissue damage, if we take this subjective report(1).

Definition is extremely unfortunate. Definitions tend to force people into particular ways of thinking. By concentrating on the subjective nature of pain, this definition allows us to conveniently ignore individuals whose physical findings are all consistent with a diagnosis of "pain", but who cannot relate a subjective feeling of pain. Indeed, it tells us that (appearances to the contrary) such people are not in pain as patient is under anesthesia, and has a tachycardia and hypertension. By the above definition, he was never in pain this is further evidence that we should not rely only on pain being "always subjective". Pain is also something that can now be documented in a fairly objective fashion, albeit only using tools in the laboratory. Clinically it is still, and always will be vitally important to listen to the patient who reports pain. But pain does not stop there.

"The affective-motivational aspects of pain originate in the periphery, and suffering is not merely a matter for the neocortex; it is profoundly more ancient and primitive phylogenetically and is reflected in fiber tracts and neural networks throughout the nervous system"(2).
Although acute pain may have survival value (causing e.g. removal of the injured limb from a harmful stimulus), chronic pain is of no value whatsoever, and is indeed a major scourge of humanity(3).

Pain pathways:

Previously, pain pathways were seen as having three components:-

1. A first order neurone (cell body in dorsal root ganglion) which transmits pain from a peripheral receptor to...
2. A second-order neurone in the dorsal horn of the spinal cord, which axon crosses the midline to ascend in the spinothalamic tract to the thalamus where
3. A third-order neurone projects to the postcentral gyrus (via the internal capsule). This scenario, while partially correct, is now known to be horribly over-simplified. The following will be considered components of pain pathways:(4)

a. Peripheral receptors;
b. Neural pathways;
c. Spinal Cord mechanisms & long tracts;
d. Brainstem, thalamus, cortex & other areas.
e. Descending pathways.

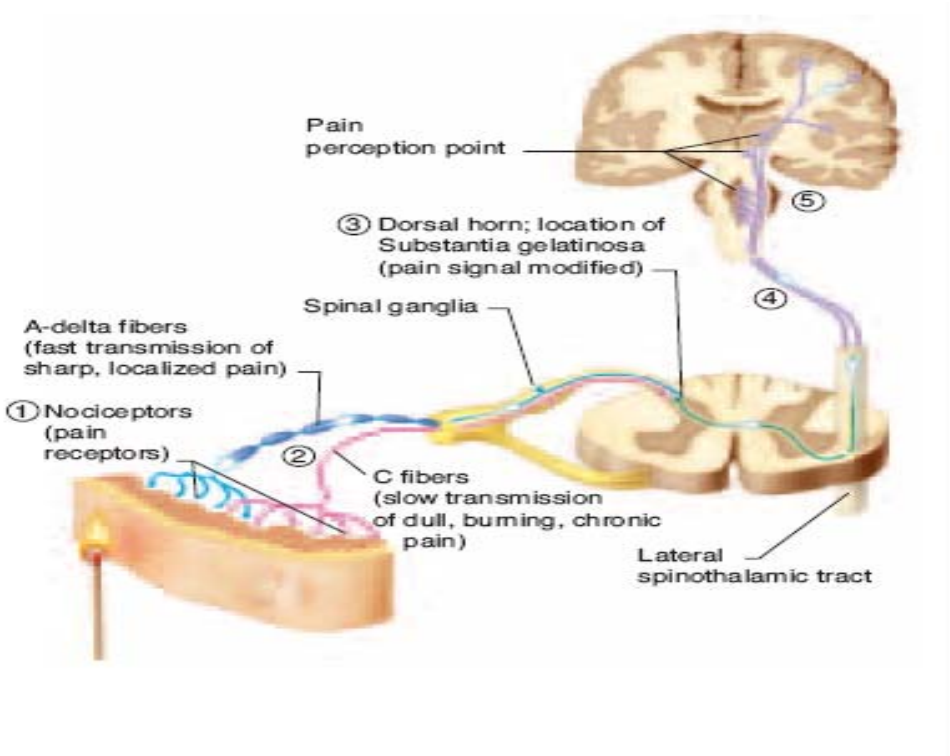

Figure 1: shows pain pathway [5]

a. Peripheral receptors:

It is important to realize that there are two distinct responses to a painful stimulus, a "**first pain**" and a "**second pain**". The first pain is well-localized and brief; the second is more diffuse and protracted.

First pain is described as sharp, and "pricking". It localizes to a well-defined part of the body surface. The receptors for this first pain are high threshold mechanoreceptors. There appear to be specific "nociceptors" which mediate pain, and ONLY pain.

Second pain is due to stimulation of receptors that exist in many tissues (but not in, paradoxically, the brain). It is often described as dull (i.e. not sharp) and aching. It is poorly localized. Receptors for this second pain are termed polymodal nociceptors. This pain tends to last