



شبكة المعلومات الجامعية  
التوثيق الإلكتروني والميكروفيلم

# بسم الله الرحمن الرحيم



**HANAA ALY**



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# شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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# جامعة عين شمس

## التوثيق الإلكتروني والميكروفيلم

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### يجب أن

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# **Aminophylline Versus Acetaminophen In The Treatment Of Post-Dural Puncture Headache**

*Thesis*

*Submitted for Partial Fulfilment of the Master Degree in  
Anaesthesiology, Intensive Care and Pain Management*

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سبحانك لا علم لنا  
إلا ما علمتنا إنك أنت  
العليم العظيم

صدق الله العظيم

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<b>ASA</b>	American society of anaesthesiologists	
<b>BMI</b>	Body mass index	
<b>CNS</b>	Central nervous system	
<b>COX</b>	Cyclo-oxygenase	
<b>CSF</b>	Cerebrospinal fluid	
<b>CAMP</b>	Cyclic adenine monophosphate	
<b>EBP</b>	Epidural blood patch	
<b>HDAC</b>	Histone deacetylase	
<b>HIS</b>	International headache society	
<b>ICHD-3</b>	International classification of headache disorders 3 <sup>rd</sup> edition	
<b>IV</b>	Intravenous	
<b>MRI</b>	Magnetic resonance imaging	
<b>NAPQI</b>	N-acetyl-p-benzoquinoneimine	
<b>NMDA</b>	N-methyl-D-aspartate	
<b>No</b>	Nitric oxide	
<b>OTC</b>	Over-the counter	
<b>PACU</b>	Post anaesthesia care unit	
<b>PDE</b>	Phosphodiesterase enzyme	



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*List of Abbreviations*

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<b>PDPH</b>	Post Dural puncture headache
<b>PGIC</b>	The patient global impression of change
<b>P-value</b>	Probability
<b>SD</b>	Standard deviation
<b>SPSS</b>	Statistical package for social sciences
<b>VAS</b>	Visual analogue scale
<b>X<sub>2</sub></b>	Chi-Square

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# INTRODUCTION

Spinal anaesthesia is a simple, cost effective and efficient technique that provides complete sensory and motor block, as well as postoperative analgesia with a high success rate. (*Houtermans-Auckel et al., 2009*)

Post-dural puncture headache (PDPH) is among the most common complications of lumbar punctures performed for spinal anaesthesia or neurologic investigation, with incidence rates of 8% to 37% reported in different studies. (*Amorim, Gomes De Barros & Valença, 2012*)

It typically begins within 2 days but may be delayed for as long as 2 weeks and almost resolves spontaneously within a few days. (*Bradbury et al., 2013*)

The classic symptoms of (PDPH) consist of photophobia, nausea and vomiting, neck stiffness, tinnitus, diplopia, and dizziness, in addition to the often severe cephalgia. The headache is usually severe and throbbing, frontal in origin, with radiation to occiput and is exacerbated by sitting or standing. The positional nature of the headache and dramatic improvement on assuming the supine position remains the standard diagnostic criterion for this condition. (*Nepomuceno & Herd, 2013*)

Preventive strategies of PDPH are developed based on how to reduce CSF leakage by available methods including small size pencil point spinal needle, parallel bevel orientation, and liquid use for the loss of resistance in epidural puncture. (*Xu et al. 2017*)

Commonly used treatments for PDPH include rehydration, the administration of corticotropin, caffeine, or sumatriptan, and the application of an Epidural blood patch (EBP). (*Ergun et al. 2008*)

It seems that Methylxanthines' derivations (e.g. caffeine and theophylline) lead to vascular contraction and can reduce the headache. On the other hand, these drugs may decrease the headache by blocking the purine receptors. (*Ronald 2005*)

Aminophylline, like theophylline and caffeine, can prevent PDPH by adenosine antagonization and vasoconstriction effect. (*Pranjal & Sajan 2007*)

Acetaminophen is one of the most important drugs used in the treatment of mild to moderate pain when an anti-inflammatory effect is not necessary. The drug is one of the most commonly used non-narcotic analgesic agents for mild to moderate pain such as headache. (*Katzung 2018*)



## **AIM OF THE WORK**

1. To verify the efficacy and safety of Aminophylline for management of PDPH.
2. To compare the efficacy of Aminophylline and Acetaminophen for management of PDPH.