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CerID F202110C025220  
Issued on October 7, 2021



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# Effect of *Moringa oleifera* leaves extract towards cerebral histopathology in methanol induced male Wistar rats

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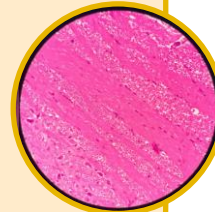
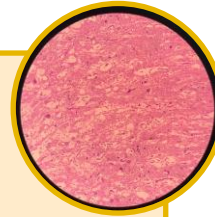
<sup>2</sup>General practitioner, Bhayangkara Tk II Prof Awaloedin Djamin Hospital, Semarang

# Introduction

- Methanol intoxication CFR in Indonesia → 30%
- Cause of intoxication → unintentional ingestion, abuse
- Methanol intoxication cause blindness, central nervous system damage and metabolic acidosis
- Definitive therapy for cerebral damage cause by methanol intoxication remain unknown
- *Moringa oleifera* (MO) leaf has various bioactive effect such as anticancer, anti-inflammation, anti-diabetes and antioxidant

# Research Purpose

**To analyze effect of Moringa oleifera leaf extract on brain histopathology in male Wistar strain rats inducing methanol in terms of brain volume, Purkinje cell necrosis percentage and leukocyte count percentage**



# Method and material

**Acclimatization  
and  
randomization**

**Methanol  
poisoning**

**Negative  
control and  
group testing**

**Data obtaining  
and analyzing**

# Result

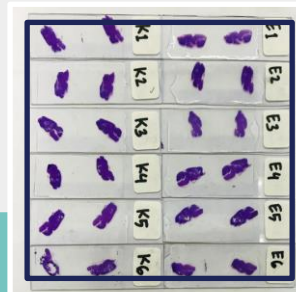
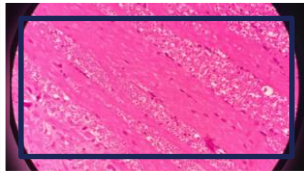
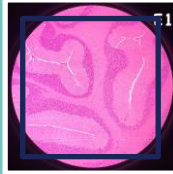
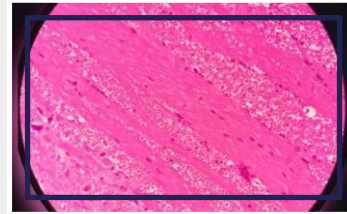
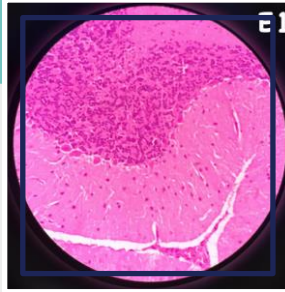
	<b>Negative control</b>	<b>Treatment group</b>
Brain volume (mm <sup>3</sup> )	2773.33 ( $\pm$ 350)	2906.33 ( $\pm$ 627)
Lymphocyte percentage (%)	15.5 ( $\pm$ 5.36)	4.0 ( $\pm$ 1.26)
Necrosis percentage (%)	56.3 ( $\pm$ 16.7)	66.8 ( $\pm$ 23.5)

## Cont'd

	<b>Brain Volume</b>	<b>Lymphocyte Percentage</b>	<b>Necrosis Percentage</b>
<b>Chi-Square</b>	0.104	8.426	0.641
<b>Df</b>	1	1	1
<b>Asymp. Sig.</b>	0.747	.004*	0.423



# Photograph



# Discussion

- Typical dose of MO leaf is 300mg/kg body weight, but efficacy in this dose is still on further research, as 1000mg/kg body weight is still considered safe.
- On the other hand, the effect of MO leaf extract on necrosis percentage of brain tissue was found to be insignificant in our study.
- This may be due to smaller dose administration compared to other studies, namely 800mg/kg of body weight of experimental animals.

- While the measurement of brain oedema represented macroscopically with brain volume was also obtained insignificant between two groups.
- We suspect the dosage of MO leaf extract also has an influence on this effect.
- Further experiment and evaluation are mandatory.

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**Thank**

**You**

# THANKS

**Do you have any questions?**

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