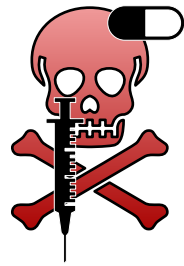


# Autopsy, histological and toxicological findings in deaths associated with NPS:

an autopsy case study

## Population and Methods

Diagnosis  
“death associated  
with NPS”  
(n = 12)



Retrospective study  
(2016-2021)



Autopsy,  
histology,  
toxicology  
(hair and organs)



Young male adults (40 years)  
Normal BMI (22.3)

### Lifestyle:

Drug addiction  
Homosexual (MSM)



Chemsex?  
Slamming?

## Findings

Heart and/or  
coronary

Putrefaction:  
hamper lesions

Mode of death:  
accident

Chronic consumption:  
cathinones (3-MMC)



Increased (225 ng/mg):  
psychoactive effects

Mexedrone (640 ng/mL):  
first lethal concentration

C/F ratio (3.78):  
cardiac tropism

TOXIC ETIOLOGY ?

Non-medical  
Toxicology

Autopsy  
Histology

Fibrosis:  
vasospasm ?

Steatohepatitis\*

Myoglobinuria:  
rhabdomyolysis

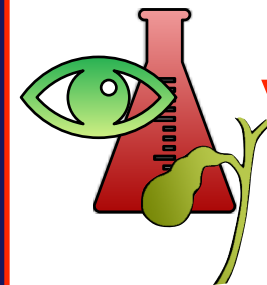
Chronic  
interstitial  
inflammation  
with anthracosis

## Conclusion

Macroscopic and microscopic lesions observed were: (1) cardiovascular; (2) hepatic; (3) neurological; (4) renal. Tissue redistribution was highlighted as increased in brain, and cardio-femoral ratio suggests a cardiac tropism or a release from the reservoir organs.

## Perspectives

Powders,  
vitreous humor  
and bile



Quantity of hair  
(or bristles):  
to improve  
toxicological data



Prospective study  
(epidemiology)



Levasseur  
et al, 2022

Forensic  
Science  
International

C/F ratio = cardio-femoral ratio  
3-MMC = 3-methylmethcathinone

NPS = new psychoactive substances  
MSM = men who has sex with men