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)

Findings

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

Lifestyle:
Drug addiction
Homosexual (MSM)

Chemsex ?
Slamming ?

Non-medical Toxicology

TOXIC ETIOLOGY ?

Autopsy Histology

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

Heart and/or **coronary**

Putrefaction: hamper lesions

Mode of death: accident

Fibrosis: vasospasm ?

Steatohepatitis*

Myoglobinuria: rhabdomyolysis

Chronic interstitial inflammation with anthracosis

Perspectives

Powders, **vitreous humor** and **bile**

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

Prospective study (epidemiology)

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.

Levasseur et al, 2022

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

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