

articles published between the years of 1990 and 2022, which met the inclusion criteria, having selected 5 out of 529 articles to constitute this abstract. **Results:** The immune response of the omentum to inflammation occurs by the “activation” of Milky Spots, which have macrophages and lymphocytes in various stages of maturation [1,2], in the presence of infection these cells leave via stomata from the connective tissue to the peritoneal cavity. [2,3]. Stromal cells expressing stem cell markers are a major source of angiogenesis factors such as endothelial growth factor which may be related to

its being used as a graft. [4]. Another reaction to omentum infection is the production of “host defense peptides”, which are part of the immune defense system [5], also playing a modulating role, stimulating the division of epithelial cells and fibroblasts, vascular neogenesis, granulation tissue formation and wound healing. **Conclusions:** There are modulating molecules in the omentum that are activated in the presence of an infectious/inflammatory process. Identifying this player is essential to control of inflammatory process.

Keywords: omentum; peritonitis; chemokines; peritoneum.

References:

- [1] Liebermann-Meffert D, White H, Vaubel E, eds. The Greater OMENTUM. Berlin Heidelberg, Germany: Springer, 2012.
- [2] Krist LFG, Kerremans M, Broekhuis-Fluitsma DM, Eestermans IL, Meyer S, Beelen RHJ. Milky spots in the greater omentum are predominant sites of local tumor cell proliferation and accumulation in the peritoneal cavity. *Cancer Immunol Immunother.* **47**(4):205–212, 1995.
- [3] Beelen RHJ, Eestermans IL, Döpp EA, Dijkstra CD. Advances in experimental medicine and biology. *Adv Exp Med Biol.* **237**:745–750, 1988.
- [4] Hall JC, Heel KA, Papadimitriou JM, Platell C. The pathobiology of peritonitis. *Gastroenterology.* **114**(1):185–196, 1998.
- [5] Chandra A, Srivastava RK, Kashyap MP, Kumar R, Srivastava RN, Pant AB. The anti-inflammatory and antibacterial basis of human omental defense: selective expression of cytokines and antimicrobial peptides. *Plos One.* **6**(5):e20446, 2011.

POSTER 4

Psilocybin and psilocin as new tools to fight depression: an overview of the pharmacodynamics and pharmacokinetics

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Doi: <https://doi.org/10.51126/revsalus.v4iSup.271>

Resumo

Introduction: Psilocybin and psilocin are the main hallucinogenic compounds of the *Psilocybe* ssp. mushrooms, widely acknowledged as “magic mushrooms”. Preliminary studies with psilocybin show potential for the treatment of obsessive-compulsive disorders, alcohol and tobacco use disorders, major depressive disorder, and treatment of depression in terminal cancer patients [1]. Despite increasing awareness on the therapeutic potential of hallucinogens and revitalized interest in related investigation, their safety and usefulness have been debated and challenged in the medical literature [2]. **Objectives:** In this review, we compiled the available information on the mechanisms of action and pharmacokinetics (in particular metabolism) of psilocybin and psilocin, with special emphasis on their implications

for the therapeutic potential in depression. **Materials and Methods:** An extensive literature search was carried out in PubMed (U.S. National Library of Medicine) to find the most relevant articles dealing with the pharmacodynamics and pharmacokinetics of psilocybin and psilocin. **Results:** Psilocybin is believed to have very little biological activity per se, acting primarily as a pro-drug of psilocin. In fact, psilocybin is rapidly activated in vivo by dephosphorylation promoted by alkaline phosphatases, resulting in the production of psilocin, which further undergoes glucuronidation, with the psilocin-O-glucuronide metabolite being the main urinary biomarker of consumption, with relevance in clinical and forensic diagnosis [3]. No CYP450-mediated metabolism was unraveled for psilocybin or psilocin, making these

drugs promising pharmaceutical candidates due to the low potential for drug-drug interactions. Unlike psilocin, psilocybin cannot freely cross the blood-brain barrier, the metabolite being the primary responsible for the psychoactive effects of the drug [4]. Pharmacologically, psilocin act as an agonist or partial agonist at various serotonergic receptors, the subtype 5-HT_{2A} being the most implicated in their pharmacodynamic effects [3]. Recently, growing evidence has been demonstrating the role of epigenetics in the exceptional anti-amnesic effects

of psilocybin and psilocin, supporting the traditional therapeutic use of psychedelics to heal past trauma [5].

Conclusions: Despite promising findings in therapeutic trials with psilocybin, several factors, including lack of funding, law restrictions in several countries, and hallucinogen use stigma, continue to impose limitations on further research. At some point, regulators might have to make some efforts to overcome these barriers in order to advance our knowledge on the impact of hallucinogens on the treatment of serious mental conditions.

Keywords: hallucinogens; treatment; 5-HT_{2A} receptor; metabolism; epigenetics.

References:

- [1] Geiger HA, Wurst MG and Daniels RN. DARK Classics in Chemical Neuroscience: Psilocybin. *ACS Chem Neurosci* **9**:2438-2447, 2018.
- [2] Begola MJ and Schillerstrom JE. Hallucinogens and Their Therapeutic Use: A Literature Review. *J Psychiatr Pract* **25**:334-346, 2019.
- [3] Dinis-Oliveira RJ. Metabolism of psilocybin and psilocin: clinical and forensic toxicological relevance. *Drug Metab Rev* **49**:84-91, 2017.
- [4] Passie T, Seifert J, Schneider U and Emrich HM. The pharmacology of psilocybin. *Addict Biol* **7**:357-364, 2002. 5. Calvey T and Howells FM. An introduction to psychedelic neuroscience. *Prog Brain Res* **242**:1-23, 2018.

Acknowledgments: This work was supported by FCT funds in the scope of the projects UIDP/04378/2021 and UIDB/04378/2021 of the Research Unit on Applied Molecular Biosciences—UCIBIO, and the project LA/P/0140/2021 of the Associate Laboratory Institute for Health and Bioeconomy—i4HB.

POSTER 5

The admissibility of criminal profiling in courtroom

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Doi: <https://doi.org/10.51126/revsalus.v4iSup.272>

Resumo

Introduction: Criminal Profiling is a forensic technique used to aid in the identification of certain criminal characteristics, such as patterns of behavior and personality [1]. Its use and development has steadily increased over the decades, coupled with the diversification in the range of applications, including the attempted transition from assisting police investigations into a form of forensic evidence admissible in legal proceedings [2]. The introduction of profiling into the courtroom has been controversial, problematic and inconsistent [3]. **Objectives:** This review aims to present an overview of whether criminal profiling can be used as means of evidence in criminal proceedings. **Methods:** Search was performed in Google Scholar using the expression: Criminal AND Profiling AND admissibility AND Court. The database review yielded 17,700 articles, and according to inclusion and exclusion criteria (published between 2000 and February 2022 in English).

Articles that did not focus directly on Criminal Profiling's admissibility were excluded. 5 articles were included in the review. **Results:** The importance of measuring criminal profiling in relation to the current legal standards of admissibility was verified, [4] assessing whether it should be admitted in the Courtroom as scientific evidence [5]. Although some authors argue that the official use of criminal profiling is not reliable enough to be admissible in court, [3] others consider the technique consistent with the existing legal principles and potentially admissible [2]. It was further argued that the underlying principles can be tested, the procedure and basis for completing a profile are subject to peer review, and there are standards for controlling the operation of the technique [4]. Alternatively, some authors claim that criminal profiling should not be admitted in court until its reliability can be objectively determined [3]. **Conclusions:** The understanding of the validity and