functions, such as "learning" and "problem solving". AI deals with creating intelligent computer software [1], providing systems that learn from mistakes and improve over time. AI is applied in various fields, including healthcare. Burnout syndrome is a serious mental health issue that can lead to physical and emotional exhaustion, being characterized by feelings of hopelessness, inefficacy, and detachment from one's reality. Anesthesiologists show a high risk of developing the syndrome [3,4], with aproximately 95% indicating that being tired from work was one of the leading causes for the disease [4,5]. The lack of support at work and home and overwhelming workload increase the syndrome rate [3]. Some studies pointed out the risk of suicide for the health professional [2]. **Objectives:** Our aim is to compile the information available about the prevalence of burnout syndrome in anesthesiologists and on the ways AI may be applied to enhance working environment and to reduce the associated risks (both to anesthetists and the patients). **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 AI techniques applied to identify and reduce burnout syndrome in anesthesiology.**Results:** AI is currently being applied in anesthesiology to monitor the depth of anesthesia and control the administration, to predict event risks and complications, in ultrasound guidance diagnosis, pain management, and in operating room logistics. No specific AI instruments or protocols have been identified for burnout syndrome, even though the literature is clear in respect to the fact that a considerable percentage of anesthesiologists may be suffering from burnout syndrome in such a way that may lead to life threatening complications for both the health professional and the patient. **Conclusion:** Application of AI in anesthesiology has been proven beneficial in improving the working environment and conditions for anesthesiologists by creating software and hardware that mimic human cognitive behavior. Further application of AI in this field may help identify the symptoms and severity of burnout among the anesthesiologists and recommend automated protocols and tools to reduce the risk of anesthesiologists developing this occupational hazard, enhancing the health professional quality of work and life, which in turn may optimize patient´s care.

Keywords: anesthesia; artificial Intelligence; deep learning; machine learning; burnout

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POSTER 154
Homocistinúria

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Resumo

Introdução: A homocistinúria trata-se de um distúrbio no metabolismo de aminoácidos, devido à deficiente atividade enzimática da cistationina beta-sintetase (CBS), necessária para metabolizar a homocisteína. **Objetivo:** Compreender o modo como a redução da atividade de CBS afeta o metabolismo de aminoácidos. **Métodos:** Primordialmente, foi realizada uma pesquisa no PubMed sobre a patologia e, seguidamente, foi analisada o metabolismo da homocisteína. **Resultados:** Homocistinúria clássica é uma doença rara autossómica recessiva que se caracteriza pela atividade defeituosa da CBS. Por conseguinte, há um aumento significativo de homocisteína e metionina no sangue e na urina. Os valores normais de homocisteína no plasma de um indivíduo adulto saudável são de 5 a 15 μM. Todavia, num paciente com homocistinúria atingem valores de 200 μM. A metionina é um aminoácido essencial que está envolvido no desenvolvimento e crescimento humano.

A homocisteína é um aminoácido intermediário tóxico não proteinogénico que se encontra em várias vias do organismo. A diminuição da atividade de CBS eleva a concentração de metionina e de homocisteína e diminui a concentração de cistationina e cisteína. A CBS regula a quantidade de enxofre orgânico da metionina que é utilizada para a biossíntese de variados componentes que contenham enxofre, nomeadamente, a homocisteína e a cisteína. De acordo com Duaa W e colaboradores, a homocistinúria tem uma incidência de 1/200 000 a 1/335 000 nascimentos [1]. A patologia é diagnosticada na infância devido a inúmeras manifestações clínicas durante este período. O paciente pode desenvolver sintomas como o Síndrome de Marfan e pectus exavatum. Caso a homocistinúria seja diagnosticada com antecedência, o tratamento indicado é uma dieta com baixa quantidade de proteínas ea ingestão de suplementos com vitamina B6 e ácido fólico. Além disso, Tarun Kumar e colaboradores abordam novos tratamentos como a restauração funcional para a mutação de CBS e a inibição de stress [2]. **Conclusão:** Conclui-se, assim, que a homocistinúria resulta da disfunção da enzima CBS e a forma mais frequente de se expressar inclui o comportamento intelectual e esquelético anormal.

Palavras-chave: homocistinúria, homocisteína, metionina, cistationina beta-sintetase

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POSTER 155

Illegal trade of companion animals into the European Union – a public health concern

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Resumo

Introduction: The close contact between humans and companion animals has been increased worldwide. However, the animals are reservoirs and susceptible to zoonotic pathogens, and transporting animals between regions/countries carries with it the risk of repositioning the pathogens they may contain [1,2]. The free movement of people and their pets into the European Union is a risk factor for the translocation of diseases and their hosts. Added to this is the serious and current problem of the illegal trade associated with companion animals, which poses several sanitary, ethical and legal issues [3,4].**Objectives:** In this study, the aim was to highlight the potential zoonotic risks associated to the illegal trade of companion animals in Europe. **Methods:** The search of relevant articles was performed on Pubmed databases between February and March 2022, using the following keywords "companion animals", "illegal trade" and "zoonoses". **Results:** The results showed that the dog is the most companion animal associated with the illegal animal trade. Controlled dogs showed a high prevalence of Giardia spp, Microsporum canis and Salmonella as major zoonotic pathogens [3]. Other zoonotic diseases like rabies, toxoplasmoses, echinococcosis and leishmania were also described [1]. Based on the pilot model that comprised several institutions to control illegal animal trade demonstrated that the major of confiscated companion animals in Italy and Austria were transported without a transponder (58%), passport (68%), TRACES (85%), rabies vaccination (68%) and veterinary examination 48h before the travel (93%). Without veterinary control, these animals when entering into the country could expose the naïve animal population and humans to zoonotic diseases [4]. **Conclusions:** For international safe transport of companion animals, this review highlighted the necessity of the education/sensitization of owners to the animal and human health risk, as well as, the strict veterinary control movements of companion animals, in particular dogs, into the European Union, preventing the dissemination and circulating of zoonotic pathogens.

Keywords: companion animals; illegal trade; zoonoses; public health