

Editorial

Healthy AI: balancing opportunity and danger

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Artificial intelligence (AI) is the development of computer systems capable of performing tasks that normally require human intelligence, such as visual perception, voice recognition or decision-making and translation between languages. AI has become an indispensable part of our daily lives, as it enters more and more human activities.

AI is revolutionizing the field of medicine by improving diagnosis, treatment and patient follow-up. Thanks to various algorithms, AI can analyze imaging data, photographs or X-rays, with increased precision, allowing early detection of bone or mucosa lesions [1]. It has been demonstrated in recent years that the diagnostic accuracy of melanomas based on artificial intelligence algorithms, including convolutional neural networks, is similar or even higher than that of dermatologists experts in the field [2,3]. Recently, AI is contributing to assisted robotics, enabling more precise and less invasive interventions. It also plays a key role in personalizing care by recommending treatments that are appropriate to the patient's history and habits. Finally, AI improves access to care by facilitating telemedicine. Through AI-based applications, patients can obtain initial medical advice from a distance, reducing time to consultation [4].

However, the use of AI in oral medicine are not ethically neutral, raises important issues and limitations. On one hand, patient data protection is crucial: automated analysis of medical records requires strict protocols to ensure confidentiality and prevent cyber attacks. On the other hand, excessive reliance on AI could reduce the role of the practitioner and harm the patient-physician relationship.

Moreover, although algorithms are powerful, they do not replace human expertise and can be biased if the databases used for their learning are not sufficiently diversified. Concepts such as “machine learning” and “deep learning” are not readily available to the user.

Finally, access to these technologies remains uneven, sometimes widening disparities between patients according to their location or socio-economic level. This point cannot be overlooked in a medicine that must be accessible to all.

Last but not least, the ecological cost of these AI tools. AI algorithms require significant computing resources, involving data centers that consume a large amount of electricity. The formation of machine learning models generates a significant carbon footprint, due to the massive use of servers and the cooling of infrastructures.

In addition, the development of AI is based on the production of electronic equipment, resulting in intensive extraction of rare minerals and complex management of digital waste. Faced with these challenges, it is essential to adopt more sustainable solutions, such as optimizing algorithms to reduce their energy consumption and the use of renewable energy sources in data centers.

Our relationship with AI is still complex, between fascination and fear. There is no doubt that AI will increasingly take root in our personal and professional environment. AI has become one of the most important global economic and strategic issues.

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