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Artificial intelligence and telemedicine in oculoplastics: Recent advances, clinical applications, and emerging challenges

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**Inteligencia artificial y telemedicina en oculoplastia: avances recientes, aplicaciones clínicas y desafíos emergentes**

**AI and telemedicine in oculoplastics: recent advances, clinical applications, and emerging challenges**

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*To the Editor,*

Telemedicine and artificial intelligence (AI) are progressively transforming clinical practice in oculoplastics. These tools have not only improved access to specialized care but have also facilitated faster, more personalized clinical decisions. Given the visual nature of many periocular pathologies, this subspecialty is particularly well-positioned to benefit from these technologies.<sup>1-3</sup>

Teleconsultation has proven useful for remote triage and postoperative follow-up of eyelid or orbital lesions through the patient's submission of images or videos.<sup>4,5</sup> This has reduced unnecessary in-person visits, especially in contexts of high demand or rural areas. In addition, its use in health education and surgical preparation has already been validated.<sup>3-6</sup>

On the other hand, the development of deep learning algorithms has led to tools capable of recognizing patterns compatible with conditions such as ptosis, tumorous lesions, or facial asymmetries.<sup>7,8</sup> Some models under development even integrate functions for automated surgical planning and evaluation of postoperative results.<sup>4,9</sup>

However, limitations persist. The variable quality of submitted images can hinder clinical interpretation.<sup>3</sup> Certain exploratory maneuvers, such as palpation or eyelid eversion, remain irreplaceable in an in-person setting.

Furthermore, the integration of AI raises ethical questions about algorithm transparency, clinical validation, and data privacy.<sup>3-10</sup>

We believe these tools should be seen as complementary and lasting resources, not as temporary solutions. Their implementation must be progressive, with validated protocols and specific training for both professionals and patients. They can also offer new teaching opportunities through the remote analysis of real cases.<sup>3</sup>

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### **Ethical Considerations**

This work is a narrative review based on previously published literature. No studies on humans or animals have been conducted by the authors, so it was not necessary to submit the manuscript for review by an ethics committee.

### **Informed Consent**

Not applicable, as no identifiable patient clinical data are presented.

### **Statement on the Use of Artificial Intelligence**

The authors declare that no generative artificial intelligence software was used to draft the manuscript, analyze clinical data, or generate clinical images. The content was developed exclusively by the authors.

### **Authors' Contributions**

All authors have contributed substantially to the conception of the manuscript, the writing of the content, and its critical review. All have approved the final version of the article and are responsible for its content.

### **Conflicts of interest**

None declared.

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