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Structural eye sequelae of retinopathy of prematurity in children in Manaus, Amazonas

Sequelas oculares estruturais da retinopatia da prematuridade em crianças em Manaus, Amazonas

Thiago Gonçalves dos Santos Martins [1,2] https://orcid.org/0000-0002-3878-8564
Thomaz Gonçalves dos Santos Martins[3] https://orcid.org/0000-0001-5440-8149

[1]São Paulo Federal University, São Paulo State, SP, Brazil.
[2]Coimbra University, Coimbra, Portugal.
[3]Piedade Hospital, Rio de Janeiro, Rio de Janeiro State, Brazil

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We would like to complete some topics as comment on the article's Structural eye sequelae of retinopathy of prematurity in children in Manaus City, Amazonas State/Brazil[1], which was published in your esteemed journal.

The aforementioned article shows that retinopathy of prematurity (ROP) is an important cause of preventable blindness in Amazonas State/Brazil, which affects 31.6% of children at risk of it. This number shows the need for screening and treatment programs applied to this population in order to avoid blindness in public healthcare system users.[2] The last retinopathy of prematurity epidemic caused irreversible blindness in more than 50,000 preterm infants.[3] Ophthalmologists' training in such an area is often inadequate and limits the number of future qualified professionals. Moreover, parameters used in retinopathy of prematurity diagnosis, such as zone, stage, and presence of additional diseases differ even among experts.[4] Approximately 25% of exams conducted in a multicenter study that adopts telemedicine to diagnose this pathology did not meet the three clinically significant ROP criteria.[5]

Artificial intelligence arises as alternative to such a scenario sine it aims at increasing the access of the population to ophthalmological care and to imediate assessment of images provided by wide-angle Reticam. Some of the developed algorithms are able to assess the vascular tortuosity of plus diseases.[6] Campbell et al. [7] reported that an algorithm developed to automated diagnosis of ROP (i-ROP) reached 95% accuracy, whereas the mean accuracy of 11 experts in the study was of 87%. Therefore, there are algorithms accomplishing performance similar to those of retina specialists.

The development of automated artificial intelligence systems can assist health professionals in screening, namely in developing countries, where the availability of ophthalmological and neonatal knowledge is not enough to manage the number of preterm infants at risk of developing blindness.

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Corresponding author:
Thiago Gonçalves dos Santos Martins
Rua Botucatu, 821 - Vila Clementino, São Paulo State, Brazil.
Cep: 04023-062 Phone number: 552125712248
E-mail: thiagogsmartins@yahoo.com.br